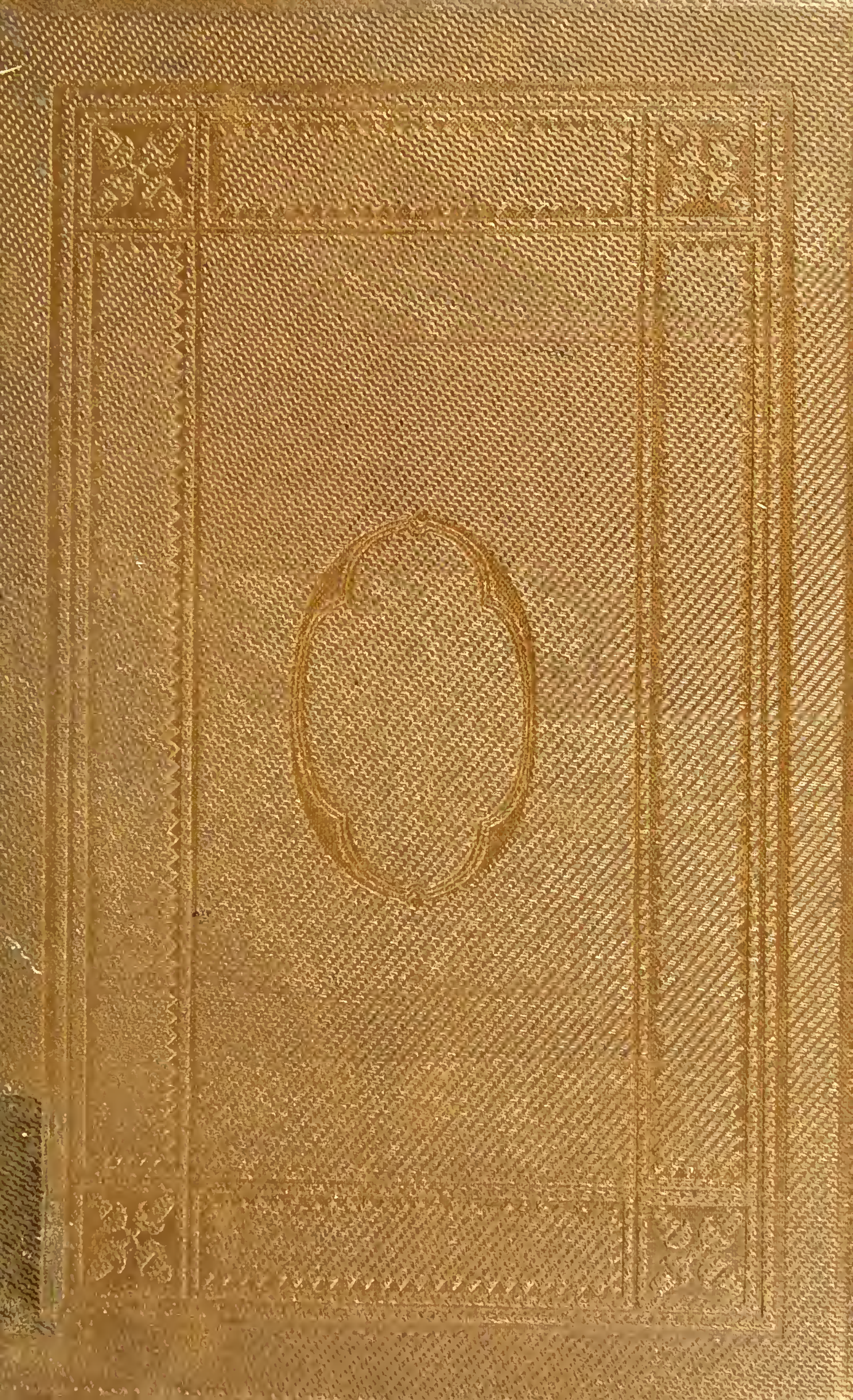

PRESENTED

BY

J. A. Nunneley Esqr
1900

[illegible]
WS 113
BAR

30106 004257464

The University Library
Leeds

Medical and Dental
Library

Thomas Nunneley Esq F.R.C.S.
with the Author's Compliments

ON THE

HYGIENIC MANAGEMENT

OF

INFANTS AND CHILDREN.

BY

Thomas
T. HERBERT BARKER, M.D.Lond.,

FELLOW (BY EXAMINATION) OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND; FELLOW AND FOTHERGILLIAN GOLD MEDALLIST OF THE MEDICAL SOCIETY OF LONDON; FELLOW OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY; CORRESPONDING MEMBER OF THE EPIDEMIOLOGICAL SOCIETY; MEMBER OF THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION; MEMBER OF THE COUNCIL OF THE BRITISH METEOROLOGICAL SOCIETY, ETC., ETC.

LONDON:
JOHN CHURCHILL, NEW BURLINGTON STREET.

M.DCCC.LIX.

T. RICHARDS, 37, GREAT QUEEN STREET.

602652

TO

JAMES COPLAND, Esq., M.D., F.R.S.,

AUTHOR OF "A DICTIONARY OF PRACTICAL MEDICINE";
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS;
CONSULTING PHYSICIAN TO THE ROYAL INFIRMARY FOR DISEASES OF CHILDREN;
ETC., ETC.

Dear Sir,

In grateful remembrance of the advantages derived from a residence in your household, twenty-four years ago; and with a trust that the writer to whom we are indebted for one of the greatest works on Medical Science produced in ancient or modern times, will not disdain the lowliest contribution to the literature of our profession, I venture to dedicate to you this little work on the "Hygienic Management of Infants and Children".

That you may live long to reap the fruit of your labours, and to enjoy the consciousness of a life spent in doing good, is the sincere wish of,

Dear Sir,

Your very faithful servant,

T. HERBERT BARKER.

Bedford, January 28th, 1859.

CONTENTS.

PAGE
INTRODUCTION - - - - - 7
Mortality of infancy - - - - 8
Causes of mortality - - - - 11

DIET OF INFANCY - - - - - 15
Diet of the nursing mother - - - 16
Choice of a wet-nurse - - - - 17
Diet of a premature child - - - 18
Weaning - - - - - 19
Beverage of childhood - - - - 21
Artificial feeding - - - - 22
Injurious effects of narcotics - - - 29
Diet during the second period of infant life - - 30
Diet during childhood - - - - 33

CLOTHING—General observations - - - - 37
Clothing for the head, chest, abdomen, and limbs - 43

TEMPERATURE - - - - - 45

AIR - - - - - - - 49

SLEEP - - - - - - 50

BATHING, WASHING, ETC. - - - - 52

PAGE
LIGHT - - - - - - 55

EXERCISE AND AMUSEMENTS - - - - 59

NURSERY AND NURSEMAIDS - - - - 65

VACCINATION - - - - - - 70

DENTITION - - - - - - 82

EDUCATION - - - - - - 92
    Early education - - - - 98
    Language and grammar - - - - 103
    History - - - - - 103
    Geography, writing, arithmetic, music - - 104
    Home education—infant schools - - - 109
    Boarding schools - - - - 110

PREFACE.

DURING several years past I have devoted some part of the leisure afforded by an extensive practice to the task of collecting information on the errors most prevalent with regard to the management of infants and children, and have resolved—not only in my own sphere of personal observation, but also by the aid of the press—to do all that I can in counteraction to these errors. For this purpose I published, a few years ago, a short and practical essay on "the Diet of Infancy and Childhood"; and, more recently, I have given the results of my observations, in a series of articles contributed to the *British Mothers' Magazine*, and the *Sanitary Review*. In compliance with the wishes of many friends and readers, I have now reduced my notes and essays to a more compact shape in this little work.

In the present day, when we are awakening to a sense of so many social and sanitary wants, it is indispensable that there should be a just distribution of labour; while it is by no means an unfavourable characteristic of every labourer in the one wide field of sanitary science, that he should see, very clearly, the importance of his own special department, and be disposed to claim for it a priority in its demands on our attention.

I have my own share of this characteristic; and—while others, not without reason, are calling loudly for improvements in the dwellings of the poor, and for other measures urgently demanded by the increasing population of our towns—I would contend, the right management of infants and children lies at the root of all other plans of social amelioration. What can good subsequent measures avail, for a constitution already hopelessly injured by errors in the opening years of life?

> "Just as the twig is bent, the tree 's inclined."

Who can say how deep and lasting may be the results of early error? The vigorous youth and hardy man may repel a thousand morbific influences that deeply affect the impressible constitution of infancy and childhood; while the error of a nurse may implant in the child the evil that shall, in after years, defy the skill of the medical man, and end either in a premature grave, or in slow, lingering years of infirmity and misery.

The advocates of improved dwellings for the poor, of shortening the hours of toil, or of confinement in shops, and of various other sanitary reforms, are all labouring for classes who can scarcely aid themselves; but, *par excellence*, the advocate of a healthy training of infants is "the friend of the helpless." The child, coming into a world of which he is utterly ignorant, is left wholly to the care and mercy of those whose thought and experience should enable them to mould truly the delicate constitution confided to their care. When its natural guardians are ignorant of their duties, how important the task of the medical adviser, who, by one true suggestion, may prevent the errors that would blight the happiness of a life!

Important as the task may be, it is equally hopeful and cheering with regard to its results. To relieve, or cure, every form of physical suffering is our duty; but, when contrasted with our *preventive* services in behalf of infancy and childhood, how comparatively inefficient are our efforts to grapple with the diseases of later stages in life! In many chronic diseases, we can do little more than palliate symptoms, and for the infirmities of old age we can only "smooth the passage to the tomb;" while, by a timely suggestion of good rules of training for infants, we may lay the foundation of a vigorous youth, and of a successful career in practical life.

Infant life may be truly represented as so delicate and impressible that, by our acts in accordance with or in opposition to its nature, we may stamp upon it health or disease, physical happiness or misery, that shall endure as long as life itself. How strange, then, that we should confide it to the care of those who are not only ignorant of, but have never even attempted to study, the laws of its constitution,—in other words, the rudiments of physiology!* Surely the time is coming when these laws—the laws of our own being and happiness—will form a leading part of the *curriculum* in all our schools, whether for boys or girls. Can any mode of "education" be more unworthy of the name than that which "crams" the memory of a child with the names of "all the mountains, capes, and rivers in Europe," and leaves him ignorant of the plainest rules of diet, exercise, and general regimen?

---

* More might be said on this important topic; but the work is already well done, in an admirable and cheap little publication—a "Note on Teaching Physiology in the Higher Schools", by Dr. ACLAND, the Regius Professor of Medicine, Oxford; and in an excellent article, entitled "Physiology: Its Place in General Education", in the SANITARY REVIEW, April 1858.

We confide the care of delicate flowers to the florist, who has studied their habits; we refuse to entrust a watch, worth only a few guineas, to the hands of an unskilful mechanic; cooking becomes a science in our day, and it is admitted that there is an art in dressing well our most common vegetables;—yet we leave the delicate and complicated structure of infant life to the care of nurses and trainers who have scarcely the notion that there exists such a science as physiology!

To remedy this prevalent error, medical men of experience must write plainly for the people. In endeavouring to fulfil my own part of our common duty, I have, on the whole, avoided technical terms, have chosen familiar illustrations derived from facts commonly observed, and, generally, have written,—I trust,—so that young mothers, nurses, and others who have the care of children, may read and understand, without any greater tax on their attention than would be demanded by several branches of education far less important than the topics to which the following pages are devoted.

Bedford, January 28th, 1859.

INTRODUCTORY.

Among all the physical evils now occupying the attention of men who devote their studies to the question of Public Health, there can be none more important than the excessive mortality of infants which marks our present stage of civilisation. When we read—not in the coloured statements of a declamatory writer, but in the Report of the Registrar-General (1849)—that, in the space of seven years, in the city of Manchester alone, "thirteen thousand three hundred and sixty-two children perished, over and above the mortality natural to mankind", we feel compelled to investigate the causes of such an enormous sacrifice of infant life. Some of these causes are doubtless peculiar to that dense centre of our manufacturing population; but that there are other and more general causes, not confined to any particular localities, but everywhere contributing to swell the sum of infant mortality, will be clearly shown by the following tables of graveyard statistics.

In order that we may see in their true significance the facts of the case, it is proper to observe, in the first place, that our infantile population is entirely free from many of the evils which cause excessive mortality among adults. Intemperance, dissipation, over-work and anxiety, the fatal accidents so frequent in several perilous occupations—these, and many other causes of a preternatural ratio of adult mortality, must be entirely left out of our calculations on the annual sacrifice of infant life. In other words, according to the ratio by which these causes make an *increase* of adult mortality, they should show a *decrease* in the mortality of infants. But our tables will show that the special causes of mortality in infancy and childhood are either so numerous or so potent, that they are found sufficient, not only to counterbalance the considerable sum of circumstances favourable to infant lives, but also to raise their average mortality far above that of adults! These remarks may serve to explain the assertion, that the *proportion* of deaths in infancy to those in adult age is, when all circumstances are considered, even greater than the following tables show! For if A. ought to have been a gainer to the amount of four, but finds himself a loser to the amount of four, it follows that he has lost eight. Just so, these tables show that our infant population *loses* more lives within the first five years, than our adult population, in any subsequent average period of five years, in the ratio of nearly twelve to one; but it must also be considered, that it ought to have *gained* by the exemptions and advantages to which we have alluded. Consequently, the value of these exemptions must be *added* to the sum of excessive infantine mortality, in order to give the total loss.

The total disproportionate mortality of infancy has never been exhibited in a strict statistical form. Yet the following Tables, compiled from the returns of a strictly rural district (Bedford), from the General Reports for England and Wales, and from the returns of various continental states, shew that we have ample grounds for a suspicion that serious errors are prevalent in the management of infancy.

TABLE I.

Number of Deaths at different ages in Bedford during sixteen years, from 1837 *to* 1853.

Sex.	6 months.	1 year.	2 years.	3 years.	4 years.	5 years.	5 to 25 years.	25 to 45 years.	45 to 65 years	65 to 85 years.	85 to 100 years.	Total.	Deaths under 5 years in 1000 at all ages.
Males	398	202	90	48	37	65	327	373	351	348	17	2256	372
Females	284	184	101	44	35	57	380	375	352	388	23	2223	317
Totals	682	386	191	92	72	122	707	748	703	736	40	4479	345

TABLE II.

Number of Deaths at various ages in fourteen rural parishes near Bedford, during sixteen years, from 1837 *to* 1853.

Sex.	6 months.	1 year.	2 years.	3 years.	4 years.	5 years.	5 to 25 years.	25 to 45 years.	45 to 65 years.	65 to 85 years.	85 to 100 years.	Total.	Deaths under 5 years in 1000 at all ages.
Males	334	149	60	25	19	44	174	118	154	267	17	1361	464
Females	235	120	64	28	29	57	336	197	214	265	12	1557	335
Totals	569	269	124	53	48	101	510	315	368	532	29	2918	399

TABLE III.

Number of Deaths in Infancy and Childhood, as compared with the Number of Deaths occurring at all ages, in England and Wales.

Date.	Under 1 year.	From 1 to 5 years.	From 5 to 10 years.	All other ages.	Totals.	Deaths under 5 yrs. in 1000 at all ages.
1838	73,606	58,531	16,138	194,485	342,760	385
1839	74,531	62,166	16,715	185,566	338,978	403
1840	77,411	67,909	20,207	194,360	359,687	404
1841	74,210	59,373	17,868	192,396	343,847	388
1842	78,704	60,331	17,208	193,276	349,519	397
1843	79,253	58,370	16,142	192,680	346,445	397
1844	80,086	59,918	17,371	199,558	356,933	392
1845	77,426	58,151	15,852	197,397	349,366	388
1846	93,644	66,976	16,190	213,605	390,315	411
1847	88,508	69,863	19,120	242,175	419,666	379
Total	797,379	621,588	172,811	2,005,498	3,597,516	394

TABLE IV.

Number of Deaths in Infancy and Childhood, as compared with the Number of Deaths at all ages, in various Continental States.

Country.	Date of statistics.	Under 1 year.	From 1 to 5 years.	From 5 to 10 years.	All other ages.	Totals.	Deaths under 5 years in 1000 at all ages.
France	Average 1817-31	176,708	108,609	37,312	361,900	784,529	363
Prussia	1839-41	103,509	74,937	19,443	197,914	399,136	447
Sweden	1806-35	15,540	8,513	2,583	39,939	66,576	361
Norway	1801-35	birth to 10 years		7,867	13,326	21,193	371
Russia	1825-27	bth.to 5	314,969	38,035	251,456	604,461	521
Austria	1834-39	209,866	1 to 4 yrs. 80,830	..	350,388	650,084	461
Saxony	1832-41	16,746	1 to 6 yrs. 6,417	..	23,227	46,420	499
Frankfort-on-the-Maine.	1840-42	bth.to 5 yrs.	357	25	754	1,136	314

A glance at these tables will suffice to show the very large relative mortality in infancy and childhood. It is well known that children are remarkably susceptible to all the injurious agents which tend to shorten life, and when such agents exist in full force, the mortality in early life becomes excessive. In Manchester, for instance, it is calculated that one-half of all the children die before they reach the age of five years. In healthy country districts the infantile mortality is much less. Of a thousand born in agricultural districts, two hundred and twenty-one will die under five years of age, showing a mortality less by half than that of Manchester. One-fourth of all the children born in England die before they reach their fifth birthday,—

> "An unripe harvest for the scythe of death."

Here is the strongest possible argument for sanitary improvement, and for the diffusion among the mothers of England, of correct principles relating to the management of infancy and childhood.

The question next arises—what are the causes of this excessive mortality? They may be found under the following general divisions:—*First.* Original constitutional debility, or hereditary disease. *Secondly.* Acute diseases, such as measles, hooping-cough, scarlet fever, etc. *Thirdly.* Our general want of sanitary measures, giving rise to pollution of the atmosphere. *Fourthly.* Mismanagement with regard to diet and regimen in the nursery.

Of these four causes of mortality, the first three are common to all ages: the last alone is peculiar to infancy. The first is doubtless an item of some importance. Of the second it is to be observed, that the amount of infant mortality resulting from acute diseases might be greatly diminished by such a course of nursery government as would invigorate the constitutions of children. This is obvious. Every nurse knows that measles, or hooping-cough, proves fatal to the delicate child, but passes almost harmlessly by the robust. Respecting the third general cause I will remark, that the want of efficient sanitary measures, which presses so heavily on the health of the entire population, must obviously be especially injurious to the delicate frame of infancy; so much so that, as a general rule, we might take infantile mortality as a criterion of the sanitary condition of a neighbourhood. Thus, in some of the worst parts of London, one may find wretched men and women who, when questioned on their own health, will reply that they are "well" (though that is not true); but ask the women "where are their children," and one may probably extort such facts as that "one has only a solitary child left out of *seven*," and "*another has buried thirteen!*"*

But making a full allowance for the operation of these general causes, there must still be left a heavy balance of infant mortality to be ascribed, chiefly or solely, to mismanagement in the nursery.

To this last cause of infantile mortality I shall exclusively devote attention in the following articles. The reason for thus giving it the priority is, that I regard it as surely and easily preventible; and the object is, to point out the two simple means of its prevention:—(1.) An increased attention to the subject on the part of medical men; (2.) Sound instructions for mothers and nurses. On the first of these preventive means I may venture to give a hint to my professional brethren; but my chief purpose is to assist in popularising the instructions that should be imparted to every mother and every nurse of children.

If we would diminish the excessive mortality of infancy, and prevent the numerous cases of physical misery in adults resulting from mismanagement *in the nursery*, we must not only popularise sound instruction of mothers and nurses, but must also urge the necessity for a greater degree of attention to the subject on the part of medical men, both lecturers and practitioners. The topics belonging to infantile hygiene should, it is conceived, form no inconsiderable part of every course of lectures on midwifery and diseases of children. Unfortunately, these topics, seeming so simple and easy that few will take the pains to study them, are, too often, passed over lightly and briefly. And what is the consequence? The young practitioner fresh from the schools, who has carefully studied the anatomy of the human body; who has studiously followed the surgeon round the wards of the hospital, and has constantly attended the operating theatre; who prides himself on his dexterity in amputating a limb in a few seconds, and waits impatiently for his first hernia operation—this practitioner, so far well educated, may, after all his studies, be puzzled when required to prescribe the best course of diet for a newly-born babe deprived of its natural source of nutriment! The medical man who could save life even in a rare case of surgical difficulty, may sacrifice the life of a healthy infant for want of knowledge of a few plain natural laws of diet and regimen!* Surely, here is an inconsistency that ought to be removed, as speedily as possible, from our plan of studies.

---

* GODWIN'S London Shadows, p. 76.

A well educated medical man should be prepared for any case that *may* occur in the course of his practice; but especially for cases that *must* demand his notice almost every day. It is requisite that he should know the remedy for a case of poisoning by aconite, and be able to treat successfully a compound fracture of the thigh-bone; but, in rural practice, years may pass away without a call for his aid in such cases, while he can scarcely pass through a village without finding some example of infancy suffering under mismanagement. It may seem, to an undisciplined mind, something low and beneath the dignity of the profession to give advice on the preparation of food for a babe,—to furnish recipes for such nursery dishes as panada, *crême de pain, lait de poule;* but it remains true that on such apparent trifles depend results far greater than those of many brilliant operations in surgery. Compare them. After the best exercise of skill in restoring to use the fractured limb in an adult or aged patient, what has been done? Probably ease and comfort have been secured for a few remaining years of life, and this is no slight boon. But by rescuing an infant from fatal mismanagement, a whole life—perhaps a long life—of vigour and physical happiness may be insured. To young students of medicine who are tempted to overlook homely and everyday duties, while exploring the subtleties of theory or rare cases in practice, we would commend the philosophy inculcated by Milton:—

---

* We append one example of almost ludicrous mismanagement, which was happily corrected before it could reach a fatal crisis. After a lady's confinement, it was found advisable to use an embrocation to relieve difficulty of lactation. The precaution of washing the breast before attempting to suckle the infant was neglected! Very naturally, the infant, disgusted by the strong-smelling oils, refused to take the breast. This led to a second mistake—the determination to bring up the child by hand; and this was carried into effect in almost the worst possible way. The stomach was crammed with thick pap; cries of distress were mistaken for calls of hunger; and soon all the sufferings of infantile dyspepsia followed. When three months old, the child had wasted away to a mere skeleton, and weighed less than at its birth! At this stage it was rescued from mismanagement, and soon began to thrive.

> "Not to know at large of things remote
> From use, obscure and subtle, but *to know*
> *That which before us lies in daily life,*
> *Is the prime wisdom.*"

In the NURSERY, our attention to a few simple rules of diet and regimen may secure that basis of physical happiness, a vigorous constitution; or our errors may inflict injuries for which the utmost resources of medical science can supply no remedy. And so closely are mind and body united in this life, that even the moral character of the man may be affected by errors in the physical treatment of the infant. I might cite painful examples to support this assertion; but it may suffice here to refer to one—the abuse of alcoholic stimulants, sometimes administered to children by ignorant nurses. Of this more may be said in another place.

Proper Diet of Infancy. It might be supposed that every parent and every nurse would understand that the best nutriment for the babe is that supplied by the maternal breast; but medical interference is often required to enforce this simple truth, to explain its full importance, to show the difficulty of finding a good substitute for the natural diet, or to reprove the errors or unworthy motives that would allow any slight inconvenience to deprive a child of its proper nutrition. Unfortunately, it is a fact too frequent in this country, that the infant is consigned to the risk of artificial feeding, or to the care of a hired nurse, in cases where no necessity for such departure from nature's order exists. If mothers could see and understand this evil in all its bearings,—if they could follow the destiny of the child banished from the breast, and watch its gradual, daily decline, and death for want of its natural food—they would, we believe, in many cases, make greater efforts to fulfil their duty to their own offspring.

In cases where, happily, it is resolved that the child shall have its natural diet, some hours, or perhaps days, may elapse before the secretion of milk is ready. Here medical advice is required to correct the prejudices of nurses, who do not understand that, in ordinary circumstances, an infant is well able to bear a fast of twelve hours immediately after its birth. In this interval, while the flow of the mother's milk is deferred, the nurse is too commonly anxious to supply the supposed want by pouring gruel or panada into the child's stomach; and the consequent indigestion and flatulence are, perhaps, treated with "dill-water" or some other carminative. This process is useless and mischievous; but when there occurs a delay of some days in the secretion of milk, the child must be supplied with the nearest possible imitation of its natural diet. This will be found in a mixture of cow's milk and warm water in equal parts, with the addition of a small quantity of refined sugar.

In many instances, nurses are found too ready to suggest to the mother that her strength is inadequate to the duty of suckling her infant. The experienced medical man will easily put aside imaginary difficulties. He will assure the mother that her power to nourish the infant is sufficient, without the aid of artificial food. The child will be rescued from false treatment, and restored to the breast; and the secretion of milk, thus encouraged by its natural stimulus, will soon be found copious enough.

The diet of the nursing mother should be the same in quality as before her confinement; but, through increase of appetite, she may require a somewhat larger quantity of food, which should always be simple—not rich and stimulating. The common error of partaking too freely of wine, ale, or porter during the period of suckling, should be avoided. Occasionally the action of the bowels may require the aid of medicine; but aperients should be selected carefully, as they must affect the quality of the milk, and consequently the health of the child. Frequent gentle exercise in the open air, the use of a tepid shower-bath, or sponging the body with tepid or cold water, may be strongly recommended to the nursing mother.

So far, we have proceeded on the supposition that the mother obeys the dictates of nature and nurses her own child. It would be impossible to insist too strenuously on this point, as it seriously affects the question of public health. Let not the infant, for any trivial reasons, be exiled from the mother's breast. Let nothing less than disease, or physical inability, deprive the child of its natural nutrition.

In cases where the mother either cannot, or, on medical authority, must not suckle her own child, the choice of a suitable wet-nurse will require consideration. If we are careful of the quality of animal food given to adults, how much more studious ought we to be in selecting the first nutriment of the sensitive infant! In age, constitution, and temperament, it is well that the wet-nurse should, as nearly as possible, resemble the mother: of course, with the exception of any morbid traits in the latter. Sound health, regular appetite, clear complexion, good temper, freedom from every sign of cutaneous or scrofulous diseases—these are some of the chief marks of the eligible wet-nurse. Her milk should be thin, and of a bluish-white colour and sweet taste; and, after standing awhile in a vessel, should throw up a considerable quantity of cream. If dropped in water, it should assume a light cloudy appearance, and not fall to the bottom in thick drops. The diet of the wet-nurse should be generous, yet temperate. Indulgence in ardent spirits must be strictly prohibited; and, if stimulus is required, a moderate quantity of pure malt liquor, such as Bass's or Allsopp's ale, may be allowed. When the nurse is—as she should be—competent to the discharge of her duty in nourishing the infant, no other kind of food should be given. To give solid food, such as *bouillie* (flour boiled in cow's milk), while there is a good supply of far superior nutriment in the breast, is a gross folly.

Mauriceau has recorded the case of a healthy child which was fed, on the third day after its birth, with *bouillie* (or flour boiled in milk). The consequence was, that the infant died under a severe attack of colic attended with convulsions. There can be no need of any artificial food, if, during the first five or six months, the infant is applied to the breast at regular intervals of about three or four hours, by night as well as by day. The appetite of the child can be thus duly understood and satisfied by regularity of attention. "A single ounce of milk", says Dr. Combe, "well digested, will nourish more than double the quantity when it oppresses the still feeble stomach."

Diet of a Premature Child. Perhaps this will be the most suitable place for a few hints on the nursing of children prematurely born. Immediately on the premature birth of an infant (when there is hope that it may live), a healthy nurse should be found, so that the infant may at once be nourished with natural food, instead of waiting for the appearance of the mother's milk. It is desirable, in such a case, that the nurse should have small nipples, such as may be inclosed within the lips of the infant. If it be too feeble to suck, the artificial milk, before alluded to, must be administered by means of a small teaspoon. Its feeble stomach and digestive powers will require but a small quantity at a time, perhaps not more than two or three teaspoonfuls of the mixture of milk and water, but at shorter intervals—say every hour or two, unless longer sleep should prevent.

There is a popular prejudice in favour of children born at the seventh month of pregnancy, and against the surviving of eight months' children. This notion, however, is entirely without reasonable foundation; for it is a fact ascertained beyond doubt, that the seven months' child has a less chance of living than one of eight months, as the latter has a less chance than the child at the full period: but, with careful and delicate attention, both the seven months' and the eight months' child will be likely to live. It need hardly be said, that attention to a strictly natural diet is of especial importance in such cases.

Weaning. Weaning implies a *gradual* withdrawal of the infant from the breast, and a careful substitution of other food in the place of the nurse's milk. The younger the infant, the greater the care required in the choice of food adapted to its digestive organs. We are easily guided by nature to determine, in all normal cases, the proper time of weaning. It is clearly indicated by the appearance of teeth; and, therefore, should generally take place between the seventh and the twelfth month. Here we would offer a word of caution against protracted suckling. Constitutions capable of nursing with impunity a strong healthy child for some length of time beyond twelve months, are but rarely met with; and medical men frequently observe the injurious effects of such attempts, both to mother and child. What these injurious effects are, it is not our province in this chapter to describe, but the opportunity could not be allowed to pass without thus briefly adverting to them.

If weaning have been determined upon, a proper quantity of the best diet should now be regularly given at intervals of about three hours each, and the child should no longer be disturbed by a want of food during the night. To avoid this, a sufficient meal should be given a short time before the infant goes to rest, and it should be fed early every morning. A common plan is to wean the child during the day, and for some time to continue to nurse it during the night; and this is unobjectionable, provided the mother do not allow the child to convert the night season into a regular period of feasting. Should the child fall into this bad habit, the mother will rise in the morning exhausted and unrefreshed, and the child's digestive organs will probably become disordered. To guard against this, let the breast be given at longer intervals during the night, and its artificial food as late at night and as early in the morning as convenient.

But of what materials should the diet now consist?

Food during and after weaning should not differ too much from the qualities of the previous milk diet. To make the change from the breast to the new diet gradual, the infant should be allowed to take a little soft and mild food, such as wholesome bread steeped in milk and water, as soon as any teeth have appeared, and thus he will be gradually prepared to leave the breast. But, even after weaning, the diet should still be mild, such as rice, oatmeal-gruel, panada, or biscuits steeped in water, with the addition of a little milk and sugar, and gradually other similar articles of food may be added. The yolks of lightly boiled eggs are rich in nutritious matter. The *lait de poule*, a French preparation, may be made by shaking or beating up the yolk of an egg in more than half a pint of water sweetened with a little sugar. Hard's farinaceous food, Leman's tops and bottoms, or Dodson's biscuit-powder, may be tried; or, if these disagree with the stomach, weak beef-tea, veal or mutton broth, without fat, and mixed with an equal quantity of farinaceous food and a few grains of salt. Bullock's Semola, a preparation of the gluten from wheat, is a light, digestible, and nutritious article of food for infants and invalids, which I have frequently recommended, and found to agree well with the stomach, when other preparations and kinds of food had failed. No general rule as to the particular food which will be suitable during the process of weaning can be laid down; for in practice it is repeatedly observed that one kind of food, which agrees remarkably well with one child, as decidedly disagrees with another. The general principles which have been insisted on must be followed, namely, of giving sufficiently thin and light food, and not in too large quantity; and selection must be made, after sufficient trial, of that particular preparation which suits best the stomach of the child.

Salt and sugar are the only proper condiments to be allowed in the food of children. Though I have strong objections to the use of sweetmeats, I would not deny the use of sugar, which is a luxury that may be safely enjoyed in moderation. A due proportion of salt should always accompany a vegetable diet.

Beverage. When we turn to consider the proper beverage of childhood, we meet an abuse which calls for the severest reprehension. One might imagine that all persons endowed with common sense would understand that pure water, with or without a proportion of milk, or well made toast-and-water, must be the proper drink during the excitable period of childhood; but unhappily we are compelled to advert to the fact, that some parents and nurses—not knowing the nature of what they do, have the pernicious habit of administering to children, not only tea and coffee, but wine, malt liquors, or even—generally as a cure for some slight complaint—ardent spirits! It is a duty to explain clearly the tendency of this practice. It tends to injure the child and the future man, not only physically, but also morally. Proofs of this are unhappily too abundant: there can be no dispute on the point. Whatever may be said regarding the use or the abuse of wine, ale, or spirits, with regard to the *adult* constitution, it must be observed that on the delicate, excitable, and impressible constitution of children, such stimulants act with a tenfold pernicious effect, hurrying on the circulation —naturally quick in youth—vitiating the stomach, disturbing the nervous system, and producing an undue afflux of blood to the head. Common sense, without any help from physiology, might surely put down the practice against which we direct this paragraph. If wine or other alcoholic stimulants are suitable *medicines* to revive the languid circulation and sustain the animal warmth in cold and feeble old age, how can they be proper articles of diet for the precisely contrary condition of childhood? The fire required in the midst of December's snow is surely not wanted in the height of summer warmth! A spur to the youthful pulse is surely not required when it naturally runs at a pace which would indicate fever in an adult! Besides, the growth of the appetite for alcoholic stimulants, when frequently indulged, is well known to be rapid; and I would therefore ask, if a child of six years of age is allowed to drink a glass of port or sherry wine then, *what* and *how much* liquor may he be expected to take when he is a man of sixty? I would lay it down as a rule, that no alcoholic stimulants should be tasted during childhood. The few exceptions to this rule are cases which should be referred to medical treatment. If a medical man is consulted with regard to administering to a child a dose of rhubarb and magnesia, he should in all consistency be consulted before such a medicine as *port wine* is given.

Artificial Feeding. Hitherto, I have proceeded on the supposition that the infant has been nourished either by the mother or a well chosen nurse. But there may be cases in which it would be highly improper to allow the mother to suckle her own babe, while it may be difficult to employ the services of a good wet-nurse. In such a case, we must, with the utmost caution, employ a system of *artificial feeding.*

On this point I must especially request parents to bestow the greatest care and attention; for, as the mode of artificial feeding is plainly a deviation from the plan of nature, we should study to make such a breach of rule as small as the circumstances of the case will allow. *A very considerable part of the mortality of infants reared by hand is the result of errors, respecting either the quality or the quantity of the artificial food administered.*

In the first place, I would observe that where an infant is to be brought up by hand, or where there exists a probability that ere long artificial feeding will have to be resorted to, it ought not to be put to the breast at all; weaning it after it has been accustomed to the breast-milk for a few weeks, is exposing it to imminent danger.

According to the principles already laid down, it is clear that the artificial food of infancy should form the *best possible imitation* of the natural milk which *ought* to be the diet of the infant. In order to succeed in this imitation, we must carefully study the properties of the original. Milk is the perfect form in which nature presents to us the three essential constituents, *saccharine*, *oily*, and *albuminous* matters, necessary to support infant life. It may be resolved into three organised compounds, which we may designate by the familiar terms, *cream*, *curd*, and *whey*. These three constituents vary in proportions in the milk of various animals, as the following table will show:—

Properties.	Human.	Cow's milk.	Goat's milk.	Asses' milk.
Casein	2·95	4·48	4·02	1·82
Butter	5·20	3·13	3·32	0·11
Sugar	6·34	4·77	5·28	6·08
Saline matters ..	0·45	0·60	0·58	0·34
Water	85·06	87·02	86·80	91·65
Total	100·00	100·00	100·00	100·00

We see, in the above table, that the milk of the cow contains a considerably greater proportion of *casein* (or cheese-like matter) than human milk. Now it should be observed that this *casein* is the least digestible of the constituents of milk; and from this fact we learn the necessity of *diluting* cow's milk, so as to adapt it to the tender organisation of the child. The milk of woman contains a larger proportion of butter than that of the cow; and hence is inferred the propriety of adding a small quantity of cream to the diluted cow's milk, given in feeding by hand. But the addition of cream is not so important as the proper dilution of the milk. The foregoing table also shows us that it is proper to add to the diluted cow's milk a small quantity of loaf sugar, to increase its resemblance, in the saccharine quality, to the milk supplied for the child by nature. Moist sugar may be used occasionally, if the infant's bowels are confined; but let this be noticed—the free use of sugar is not to be recommended; it tends to cloy the stomach and weaken the digestion, thus producing acidity, sour eructations, and flatulence.

For the first four or five months, let a mixture of fresh cow's milk and pure boiling water, in equal proportions, with a small quantity of loaf sugar, be used. For the first fortnight the proportion of water may often be advantageously increased to two-thirds; but, as a general rule, the best mixture for a healthy, full grown infant, will be of equal parts of milk and water. At the expiration of the fourth or fifth month, pure, fresh, undiluted milk may be *gradually* substituted for the diluted mixture. If, at any time, sickness or disorder of the bowels occur, either diminish the quantity, or try it somewhat more diluted, until these symptoms subside. If, on the other hand, no disorder of the stomach or bowels is produced, and the infant is not satisfied with the above mixture, gradually diminish the quantity of water, or try the addition of *one teaspoonful of cream* to four ounces of the mixture of milk and water.

The above *recipe* for an imitation of the mother's milk may appear to some nurses as a very poor and thin sort of diet; and they may, consequently, think it advisable to deviate from it by now and then giving to the infant more substantial fare, in the shape of gruel, panada, or some other farinaceous preparation. Here the physician has to contend with a very obstinate and firmly rooted prejudice. The nurse imagines that, because a cup of gruel contains a considerable quantity of nutriment (even for an adult) it must, therefore, be suitable to strengthen the infant, and never considers that, if the infant's stomach is not prepared to digest and assimilate such food, the effect must be injurious. Frequent observation of the bad consequences of this prevailing error among nurses leads me to state here, emphatically, that an infant brought up by hand is much safer and has a much better chance of thriving with the said mixture of milk and water, than when a stronger food is used. Why? Because the former is well digested, while the latter is not; and all indigestible food produces irritation and oppression. It is quite certain that the mortality among artificially fed infants (which is confessedly *very great*) may be considerably diminished by careful attention to this point.

If gruel, panada, and similar food must be condemned, when they are inconsiderately administered to the infant, what must be said of the practice of giving to a toothless child such substances as solid bread, potatoes, or the flesh of animals—roast beef, for instance. One might think that common sense would sufficiently show the absurdity of such treatment. Nature has given to all creatures intended to consume flesh suitable teeth to tear and masticate it, and the adult human being is furnished with such teeth; but look at the mouth of the infant, and observe for what purpose it was intended. The tender and toothless gums, the soft, full and prominent lips, the whole formation, admirably adapted for receiving a bland, fluid diet by suction, but totally unfitted for mastication,—do not these signs clearly show the impropriety of giving to infants the diet of adults?

With regard to the *quantity* of the first artificial food proper in the early stage of infancy; let it be considered that the stomach is small and unaccustomed to its functions. Let the diet of the infant be gently given in small quantities. Let the first symptom of indifference be noticed as a sign that the appetite is satisfied for the present. As a general rule, we may state that six or eight tablespoonfuls will be enough to be given at one time. It is true that, when too much is given, nature (infinitely wiser than the "cramming nurse") provides a remedy for the evil by vomiting. But even this very emphatic pronunciation of "no more!" from the stomach, does not convince the nurse of her error. She only observes it, and says, "Ah, 'tis a good sign! the child is healthy." This again is an error. It is certainly well that the stomach can thus throw off the superfluous matter, but it would be far better to make the vomiting unnecessary.

It will be understood, from all that has been said of the propriety of imitating the mother's milk as closely as possible, that the milk and water should always be given neither hot nor cold, but *warm*. *The milk,* however, *should not be warmed over a fire* (for by boiling its nutritive quality is diminished), but only by the admixture of the proper quantity of water previously heated, so as to raise it to the temperature of milk from the breast, namely, from ninety to ninety-five degrees Fahrenheit; and in all cases in which care is needed, a thermometer should be employed in order to ensure the food being always given at the same temperature. Great care is necessary, especially in towns, in order to obtain genuine cow's milk. It should be procured, from time to time, *fresh from one healthy cow, and not mixed with the milk from any other cow.* The milk sold in large towns is commonly adulterated with chalk, starch, flour, and even still more objectionable ingredients, as well as diluted with water. If, however, arrangements cannot be made to procure pure fresh milk from one cow, due allowance must be made for the dilution it has already undergone—and a smaller quantity of water will be required from the first.

Human milk is alkaline, and, even when kept for a considerable time, shows but little tendency to become sour. The milk of animals, in perfect health, likewise invariably presents an alkaline reaction, and cows when at grass form no exception to this rule. Comparatively slight causes, however, exert a marked influence upon the milk of the cow in this respect; and if the animal be shut up and stall-fed, its milk almost constantly acquires a strongly acid property,* a fact which of itself is sufficient to account for the symptoms of gastric and intestinal disorder so often produced by it in the case of children brought up in large towns. Whenever, therefore, the attempt is made to rear an infant by hand, under circumstances which render it impossible to obtain the milk of cows which are at pasture, it is desirable that the milk should be daily tested, and that any acidity should be neutralised by the addition of lime water or of finely-levigated chalk, in quantity just sufficient to impart to it a slightly alkaline reaction. If the bowels are inclined to be constipated, carbonate of magnesia may be substituted for the chalk. The possibility of the occurrence of this acidity, and of the various adulterations referred to, shews the necessity, when an infant who is brought up by hand fails in health, for making a careful inquiry into the source of the milk with which it is fed; and for examining the fluid both chemically and under the microscope, before proceeding to prescribe remedies for ailments which may be caused entirely by the unwholesome nature of its food.

---

* See the results of Dr. MAYER's observations on cows in Berlin and its neighbourhood, in a valuable paper on the artificial feeding of infants, in the Transactions of the Obstetric Society in Berlin, 8vo, Berlin, 1846; and Dr. WEST's Lectures on the Diseases of Infancy and Childhood.

The rules which have been given for artificial feeding will generally be found to succeed. If they are faithfully carried out in all cases where the infant cannot be nursed by its mother, the mortality at this period of life will be very considerably diminished. Among many illustrations of their successful application in practice, may be mentioned the following instance: A mother had attempted to rear by hand nine children in succession, in consequence of a physical inability to nurse them herself; and each of them had died before it had reached the age of twelve months. It was obvious that an improper diet had been used. After the tenth confinement, the child was treated in accordance with the principles herein laid down, and is now living and healthy.

It must be admitted, however, that some *rare* cases occur, in which every attempt to rear a child, by the most judicious course of artificial feeding, will fail. Five cases of this kind have come under my notice. A state of stupor comes on, which gradually terminates fatally. The remedy, of course, is a healthy wet-nurse.*

---

* See a paper on Infantile Coma, by the author, *Medical Times*, October 11, 1851; or Half-Yearly Abstract of the Medical Sciences, vol. xiv

Injurious Effects of Narcotics. When the rules of infantine health are disregarded by mothers and nurses; when food wrong in quality or excessive in quantity is habitually given; when cleanliness, sufficient repose, gentle exercise and pure air have been neglected, we must expect the infant constitution to suffer. Irritation, wakefulness, a bloated or emaciated habit of body and peevishness of temper will probably appear as the results of such mismanagement. And now, as one error leads to another, the inexperienced mother or nurse, having first produced disease, proceeds to exasperate that disease by the most mischievous quackery—in short by "drugging" the infant. Its cries are distressing, it will not sleep; it is evidently suffering pain;—the pain must be allayed—the child must be put to sleep;—but what are the means to be used? Nature calls loudly for help, and receives—poison! An ignorant neighbour informs the distressed mother of the wonderful virtues of a certain elixir—"Godfrey's Cordial", "Dalby's Carminative", "Poppy tea", "Diocodium and peppermint", or some other cloak for opium. In one respect these destructive nostrums fulfil their promise. The cries of the child are effectually "stilled"; for, in many cases, he is soon silent—in the grave! Let it not be thought that we write too strongly of this murderous practice. I have seen even in the course of my own experience in a rural district, too many instances of the injurious effects of narcotics upon children; but it is in the manufacturing districts that the practice of "drugging" is carried on in a wholesale manner. On this sad topic the Registrar-General has written as follows:

"How pitiful is the condition of many thousands of children born into the world! Here, in the most advanced nation in Europe, in one of the largest towns of England,—

in the midst of a population unmatched for its energy, industry and manufacturing skill—in Manchester—the centre of victorious agitation for commercial freedom—aspiring to literary culture—where Percival wrote and Dalton lived—thirteen thousand three hundred and sixty-two children perished in seven years, over and above the mortality natural to mankind! These 'little children,' brought up in unclean dwellings and impure streets, were left alone, long days, by their mothers to breathe the subtle sickly vapours—soothed by opium, a more 'cursed' distillation than 'hebenon,' and when assailed by mortal diseases—their stomachs torn, their bodies convulsed, their brains bewildered, left to die without medical aid which, like hope, should 'come to all'—the skilled medical man never being called in at all, or only summoned to witness the death and sanction the funeral!"*

Such remarks, I trust, are only required by the most ignorant mothers and nurses in the lowest grades of society. Yet I beg leave to intimate that such drugs as those referred to, may sometimes be found in the possession of nurses in the higher classes of society. The mother who wishes her infant to grow up with "a sound mind in a healthy body", cannot guard too strictly against the use of poisons.

Diet during the Second Stage of Infant Life. I have now to treat of the second stage of infancy, namely, of that beyond the sixth or seventh month, in which other articles of food may be added to the milk-diet. But let it be observed that a child will require a *gradual* weaning from its early artificial diet, as from the breast. The first deviation from a purely liquid diet may commence in the seventh or eighth month, and may consist of a little soft bread, steeped in hot water, with the addition of fresh cow's milk and a small quantity of sugar. After this has been used for some time, some light broth may be given to vary the bill of fare; but this must be free from fat and vegetable matter.

---

* Ninth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England. 1849.

Variations of diet may be required during this second stage of infancy; but the rule of simplicity, lightness, and digestibility should always be observed. A diet which agrees well with one child will sometimes be found to disagree with another. Thus, prepared barley dressed with water and unboiled milk will in some cases, where there is a tendency to constipation of the bowels, be found to agree well; in others it will prove too laxative. This may sometimes be obviated by boiling the milk. Or, in this case, genuine arrow-root (well cooked) may be useful. *But such articles as arrow-root, sago, or tapioca, should never be wholly depended upon as constituents of the diet of infants;* for they are deficient in some of the requisite elements of nutrition. If the infant suffer much from flatulence, it is advisable to boil a few caraway seeds in water, and carefully strain it before mixing it with the food.

The simplest deviation from the more liquid diet to which the infant had been accustomed is the bread and milk as recommended above, and this is probably the form of food liable to the least risk of error in the mode of its preparation, and should be persevered with if it is found to agree well with the infant. In order, however, to meet the requirements of different cases, a list of preparations is subjoined in the foot-note, from which it will not be difficult to make a selection suitable to almost every case.* Bear in mind this rule:—*When you have found a diet which evidently agrees well with the child's constitution, do not, for the sake of*

---

* 1. *Bouillie* (a French preparation), commonly known in this country as *baked flour* food, may be safely recommended to mothers, as well worthy of a trial. It is made by roasting very gently the best wheat-flour in a slow oven,

---

and afterwards boiling, or rather simmering it for a considerable time, either in water or milk and water, then adding a little sugar. When it is well made, it should be free from knots or lumps, and not too thick.

2. If the above should not agree with the infant (although it often does, if properly made) the *boiled flour* food may be tried. Take a pound of flour, put it in a cloth, tie it up tightly, then put it in a saucepanful of water, and let it boil four or five hours; then take it out, peel off the outer rind, and the inside will be found quite dry, which grate. A small quantity of this boiled flour should be made into food in the same way as gruel is made, and then slightly sweetened with lump sugar. New milk, provided it agree with the child, may be added to this preparation.

3. A French spoon-food, called *crême de pain*, may be prepared according to the following simple recipe:—Take a few slices of well-baked bread, and dry them well (but do not burn them) in an oven; then infuse them in water for several hours, and let them simmer for a considerable time, adding now and then a little more water, that the sop may not become too thick. Sweeten it moderately, and add (if you please) a few drops of orange-flower water.

4. The farinaceous food for infants prepared by Hards of Dartford, Dodson's biscuit powder, or Lemann's preparations, may sometimes be used with advantage.

5. Bullock's semola is an excellent preparation, of very uniform strength, and has been found by the writer, when properly cooked according to the printed directions accompanying it, to agree remarkably well with the digestive organs of the infant. This preparation is rich in gluten, the pure nutritive or flesh-making principle of wheat. One part is equal in nutritive power to five parts of wheaten flour, and it is as digestible as it is nutritious. The manufacturer's well known chemical attainments have been usefully exercised in the preparation of a really valuable article of diet, both for the infant and for the invalid.

6. The *rusk food* is very useful in some cases, and may be made with rusks, boiled for an hour with water, which should then be either strained through a sieve, or well beaten up by means of a fork, and slightly sweetened with lump sugar. Great care should be taken to select good rusks, as few articles vary so much in quality.

7. Another useful food is the top crust of a baker's loaf, boiled for an hour with water, and then moderately sweetened with lump sugar. If at any time the child's bowels should be costive, *raw* may be substituted for *white* sugar, in any of these preparations; and should *moist* sugar not answer the purpose, a small lump of *manna* may be used instead.

8. *Rice food* may be prepared in the following manner:—Soak some *best* rice in cold water for an hour; strain, and add fresh water to the rice; then let it simmer till it will pulp through a sieve: put the pulp and water into a saucepan with a lump or two of sugar, and again let it simmer for a quarter

change or to try a mere experiment, make alterations in that diet.

Whatever the kind of food may be, let it always be prepared immediately before use, and let all the vessels used in cooking be kept perfectly clean. The food should be given to the infant at a tepid or lukewarm temperature. Until the infant is old enough to take the thicker kind of milk-sop, preference should be given to the bottle, rather than to the spoon or to the boat. The bottle should be made of colourless glass, and the form we prefer is made without the opening in the centre, and with a wide opening at one end, into which a large cork, with a well-made ivory mouthpiece piercing its centre, is fitted. I believe that this is the most convenient and cleanly apparatus. Great care should be taken to keep it very clean, or the particles of diet adhering to the inside will ferment and produce acidity. To avoid this, the most convenient way is to use two bottles, so that one may be thoroughly well cleansed, while the other is in use. Never put a second supply of food upon the remains of a former, unless a very short interval has elapsed, and they are of the same making. The tube must be kept clean; if an artificial teat be used, very great care must be taken to keep it sweet, and in the intervals between use it should be kept in a mixture of gin or whiskey and water.

Diet during Childhood. The following bill of fare may be

---

of an hour. A portion of this may be mixed with new milk, so as to make it of the thickness of cream, and should be given by means of the bottle. If the bowels are much relaxed, the milk may be boiled, but not otherwise.

9. The following is a good food, when an infant's bowels are weak and relaxed:—Into five large spoonfuls of the purest water, rub smooth one dessert-spoonful of fine flour. Set over the fire five spoonfuls of new milk, and put two lumps of sugar into it; the moment it boils, pour it into the flour and water, and stir it over a slow fire twenty minutes.

regarded as generally sufficient for a child of two or three years. On awaking early in the morning, a little bread and milk may be given, or (while the child is too young to eat solid bread), a sop of bread in warm milk. The child will then generally sleep again for an hour or two. A second meal may consist of bread softened in hot water. The water being drained off, milk and sugar may be added. This may be taken about nine o'clock. The early meal will probably be dispensed with, if the wholesome practice of putting the child to bed early in the evening is not pursued—but if the mother wishes to rear a healthy progeny, she will by no means neglect this important point. Between one and two o'clock, or in the general dinner hour, a little broth made of the lean part of beef or mutton, or chicken-broth, with a slice of bread, will make an excellent meal. When a sufficient number of teeth show that the child is able to masticate solid animal food, a little beef or mutton plainly roasted or boiled, with such fresh vegetables as potatoes, turnips, and cauliflowers, thoroughly cooked, may be given. Until thorough mastication of the solid animal food can be performed by the teeth, it must be finely divided, in fact minced, or the child will suffer from disorder of the digestive organs and innutrition. The mother must not be satisfied with giving directions on this point to the nurse, but must see that it is properly attended to. Accustom the child to eat its food slowly, and to drink some time *after* dinner. Copious draughts during the time of eating should be avoided. This was a rule laid down by Abernethy in reference to the diet of adults, and the habit should be commenced during childhood. The best beverage for children is toast-water, freshly made. The latest meal—bread and milk—should be taken at six o'clock in the evening, not later. Soon afterwards, the child should go to bed.

In the fourth or fifth year, the bread and milk may be given without water. At this age also the early meal on awaking in the morning may be discontinued.

This course of food will not suit all stomachs. Meat or broth every day would perhaps lead to fulness of the system in some. But it will be easy to observe this, and accordingly to lighten the quality and the quantity of the diet. A lightly boiled egg may occasionally be substituted with advantage for meat. *Cocoa* is a more suitable beverage for children than tea. Ripe fruits, such as the orange, strawberries, currants, a few grapes the skins being rejected, and roasted apples, may be allowed; but stone-fruits and nuts must be avoided, also dried fruits, with the exception of figs. Whatever variations may be made, let the whole course of diet be simple, bland, and nutritious. Avoid pastry, pork, veal, salt-beef, new or heavy bread, tea-cakes, strong tea, sweetmeats, and especially (the importance of this point will bear repetition) all alcoholic beverages. That mother will show sound wisdom who keeps her children as long as possible ignorant even of the taste of ale, wine, and spirits.

To conclude; the principal rules already explained may be here recapitulated in brief terms. 1. In all normal cases, or, in other words, in all cases where no insurmountable difficulty or objection exists—the infant should be nourished in nature's own inimitable mode—*by the mother*. In this way only can we give the highest human security for the preservation of infant life and health. 2. Avoid the common error of administering medicine or indigestible food to the infant soon after its birth. 3. When the mother is not able to nurse, let the nearest and best substitute for nature's provision be found. Let the infant be committed to the care of a healthy and suitable wet-nurse. 4. In cases where it is certain that the infant can be nourished by the breast only for a very short period (say, a few weeks), and where a suitable wet-nurse cannot be engaged, it is better to give no nutriment from the breast, but, at once, to begin with the best artificial diet. 5. The process of *weaning* should be gradual, and great care must be exercised in the choice of food, according to the rules already given. 6. The artificial food of early infancy must be, in form, consistence, and quality, the nearest possible imitation of the mother's milk. 7. Give no solid food until the teeth have appeared. 8. Never depend on such articles as sago, arrow-root, or tapioca, as *main* ingredients of infantine diet. 9. The change from a liquid to a rather solid form of diet must be gradually and cautiously made. 10. Never allow either narcotics or alcoholic stimulants (*in any form whatever*) to be administered to infants or children, excepting under medical direction and care.

CLOTHING OF CHILDREN.

1. *General Observations.* In every period of life, health depends, in a great measure, on the equable diffusion of warmth over the whole body; and this cannot be insured, in our variable climate, without special care in clothing. Yet it is possible that some reader may raise a question here, and pointing to the children of the poor, thinly clad, and often rudely exposed to the weather, may ask, "Are not some of those who are most exposed robust and healthy?" I reply, that such exceptions, when duly considered, will only serve to confirm the rule I have laid down. It is necessary, however, to refer to these cases, because on a few supposed instances of the beneficial effects of exposure, some persons have grounded an absurd and mischievous theory of "hardening" children. To meet these theorists with facts, we refer to the register of deaths, where we find that, of children under seven years of age, there is a much greater mortality among the poor than among the rich. Although we are aware that there are other fruitful sources of mortality among the children of the poor, it cannot, we think, be reasonably doubted that cold, or the want of suitable clothing and shelter, adds greatly to the number of early deaths.

But a reference to the provisions made by nature for the warmth of young animals will best serve to refute the advocates of the "hardening" system. Let us notice the covering of soft warm down on the chicken (which preserves heat better than the feathers which are afterwards developed), or observe the hair on a young foal, which is both softer and warmer than that of the full-grown animal; and from these and numerous similar circumstances, we may learn that the rule of nature is to take especial care of the temperature of young animals. If the study of clothing, then, is generally important, it is especially so with regard to the health of children. In our remarks on clothing and temperature, I would recommend a middle course between the two extremes to which many infant lives have been sacrificed—the "hardening" process on the one hand, and the dread of fresh air on the other.

As nature strengthens the child we may second her efforts by exposing it to such moderate degrees of cold as its constitution is well able to resist; but we must by no means expect that a child, naturally feeble, will be hardened and invigorated by a want of sufficient clothing, or a pitiless exposure to extreme cold. It is obvious that a young and feeble child must require more clothing than one older and stronger, who can take vigorous exercise.

Our observations on this point are confirmed by a reference to the statements of able physiologists. Dr. Edwards has shown by experiments that the natural heat of mature infants at birth is from 3° to 5° below that of adults (the heat of premature infants is still lower), and that the power of producing heat is at its *minimum* at birth. The practical deductions from these facts are obvious—that the new-born infant should be warmly wrapped in flannel; that during cold weather it should be dressed near a comfortable fire, and that all other proper means should be used to preserve a due degree of warmth. "Instinct," says Dr. Edwards, "leads mothers to keep their infants *warm*, though philosophers, by more or less specious reasoning, have at different times and in different countries induced them to abandon this guide, by persuading them that external cold would fortify the constitutions of their children as it does those of adults."* The same writer, in treating of mortality from *cold*, observes—"It is not confined to children whom the misery of their parents cannot guard from the rigour of the weather, but it also operates, to a great extent (without being either perceived or suspected), in families enjoying affluence, and where it is believed that the necessary precautions have been taken; because *cold*, being relative, it is difficult from our own feelings to judge of its effect on others, and because it does not always manifest itself by determinate and uniform sensations. They do not feel the cold, but they have an uneasiness or indisposition arising from it; their constitution becomes deteriorated by passing through the alternations of health and disease, and they sink under the action of an unknown cause. It is the more likely to be unknown, because the injurious effects of cold do not always manifest themselves during or immediately after its application. The changes are at first insensible; they increase by the repetition of the impression, or by its long duration, and the constitution is altered without the effect being suspected."

For further proof that it is not the children of the poor only who suffer from cold, we may quote the remarks of Drs. Evanson and Maunsell: "We wish," say they, "we could adequately depict one of those miserable victims of parental vanity whose appearance in our streets will sometimes, on a March or November day, strike cold into our hearts. The cap and feathers set upon (not covering) the child's head, and probably of a colour and richness contrasting mournfully with the blue ears, sharpened nose, and shrunken cheeks (in which cold has assumed the features of starvation); the short kilt and Highland hose, exposing between them cracked and quivering knees, altogether require for their description more graphic power than we can presume to lay claim to."*

---

* Dr. Edwards on the Influence of Physical Agents on Life. Translated by Drs. Hodgkin and Fisher.

As a fact worthy of notice in this place, I may quote a well authenticated statement that, during cold winters in Italy, it has been observed that many deaths of infants resulted from the practice of taking them to be baptised in cold churches; as soon as the clergy put in force their new orders to baptise young children at home during severe weather, the amount of infant mortality was greatly abated.

MM. Villermé and Milne-Edwards have shown that both extreme heat and cold are highly injurious to the infant, and that the mortality among infants is considerably increased during the months of January, February, and March, when we commonly have the most inclement weather.

The statements of these distinguished scientific men are confirmed by Dr. Caffort, of Narbonne, whose tables of mortality of children, in Narbonne, show the following figures:—Average mortality, 1 in 9·57; in January, 1 in 9; in April, 1 in 10; in May, 1 in 17; and in June and July, from 1 in 7 to 1 in 8. Still more convincing facts are observed in Russia, where the number of deaths of infants increases rapidly from the more temperate to the severer latitudes. In Russia—taken as a whole—the mortality among children exceeds that among persons of all other ages taken collectively; and, as we advance from the mild temperature of Courland to the rigorous climate of Tobolsk, we find, at the latter place, the ratio of deaths *almost doubled.* These are facts—and many others might be added—which demonstrate the cruel absurdity of the so-called "hardening system," which exposes tender infants to extreme cold.

---

* A Practical Treatise on the Management and Diseases of Children. By Drs. Evanson and Maunsell.

I must return to this topic, deficient clothing, in my special remarks; at present, I have to consider another very serious evil, and one far too common—the habit, namely, of wearing certain parts of clothing so *tight* as to interfere with the circulation of the blood and the development of the muscular system. Of this evil the most injurious instance is found in *tight-laced stays,* as worn by young ladies; but some other cases also require notice. Even infants are frequently found, suffering simply from the effects of tight clothing, while their indications of pain are referred to other causes. I have been called to attend infants, apparently labouring under general indisposition, with restlessness, embarrassed breathing, sickness, and a dusky hue of the skin, in place of the rosiness of health, and all this the effect of a too tight application of the band, or of some ill fitting article of dress; and, greatly to the surprise of both mother and nurse, a cure has been soon effected in such cases, simply by loosening the dress, without any medicinal administration. Tight-waisted trowsers for boys, and stays of all kinds for girls, should be interdicted during the whole period of childhood, nay, of life. But the evils of *stays* are of the most serious character. Besides crippling muscular action, their continued pressure alters the shape of the chest, diminishes the capacity of the lungs for air, forces the stomach, liver, and spleen, from their natural positions, presses these upon each other, and diminishes their functional power. As an inevitable consequence, this produces derangement of the respiration, the circulation, and the digestion, and too often leads to an early grave, or to a life of prolonged ill health. All these effects, too clearly and too frequently demonstrated in the *post mortem* science, surely indicate penalties too dear to pay for the sake of complying with the absurdities and cruelties of fashion. We scoff at the Chinese for crippling the feet of their ladies; while a still more unreasonable custom prevails among ourselves. If "fashion" *must* be allowed to do violence to some part of the human frame, then by all means let the feet be given into her service, not the heart and the lungs. "It is generally thought that stays improve the shape. There cannot be a greater mistake."* We shall conclude our remarks on this topic with a quotation from the *Report of the Registrar-General of Births, Deaths, and Marriages:*—

"The higher mortality of Englishwomen by consumption may be ascribed partly to the in-door life which they lead, and partly to the compression, preventing expansion of the chest, by costume. In both ways they are deprived of free draughts of vital air, and the altered blood deposits tuberculous blood with fatal and unnatural facility. *Thirty-one thousand and ninety Englishwomen died in one year* (the year ending June 30, 1839) of this incurable malady! Will not this impressive fact induce persons of rank and influence to set their countrywomen right in the article of dress, and lead them to abandon a practice which disfigures the body, strangles the chest, produces nervous and other disorders, and has an unquestionable tendency to implant an incurable hectic malady in the frame? Girls have no more need of artificial bones and bandages than boys."

---

* Coulson, On the Injurious Effects of Tight Lacing.

II. *Special Remarks on Clothing for the Head, Chest, Abdomen, and Limbs.* As a general rule, we may observe that the *head* should be kept cool. It is so well protected by nature, that, excepting to guard it from draughts and extreme cold, it requires but little care. Yet we sometimes find the head jealously guarded from cold, while the parts of the body more susceptible of injury—the chest and the feet—are left with insufficient protection. The *chest* and the *abdomen* should be kept warm, in order that the blood may not be repelled from the surface, and driven in undue proportions upon the internal organs. While the infant is unable to take that exercise which in after life serves to maintain a vigorous circulation, it is highly important that the body should be thoroughly protected from cold and changes of temperature. For this purpose, no sort of clothing is so suitable as Welsh flannel of the finest and softest quality. The infant cannot be dressed better than in flannel sufficiently long to fall some nine or ten inches below the feet, for the first four or five months. After this period, when the child is able to exercise its limbs, and it is desirable to shorten the clothes, woollen socks or stockings should be substituted.

When the child is older, and can take exercise in the fresh air, the continued use of flannel next the skin has this great advantage, that the fresh air can be enjoyed more freely in various weather, without risk of taking cold. In cold weather, woollen gaiters should be drawn over the legs when the child is exposed to the open air. No other clothing can be a sufficient substitute for flannel; but we may remark here, that cotton, being considerably warmer than linen, is more suitable for children.

Here a remark may be added respecting change of garments. The extra clothing in which exercise has been taken should not be immediately and altogether removed while the child is very warm or perspiring. Much of the disrepute into which warm clothing has been brought by some, may be attributable to the mischief which undoubtedly arises from abrupt changes of dress. The limbs should be free from all bandages and ligatures, and the whole clothing should be so loose that there can be no restraint on the movements. It is advisable, too, that the articles of infant dress should be tied rather than pinned. Attention to this suggestion will probably prevent much discomfort, and even danger.

The custom of exposing the whole of the neck and the upper part of the chest in the young female ought to be severely reprehended. It cannot be practised without serious risk in our changeable climate, and especially when other habits tend rather to make the body susceptible of cold than otherwise. Boys should wear warm double-breasted waistcoats in winter; this is preferable to the use of hair-skin. Respecting night-dresses we may observe that, in the winter, if children have the habit of throwing the bedclothes from them, a flannel night-gown may be used; in other cases, one of calico will be sufficient.

The trousers worn by little girls, and by boys before they are breeched, are too commonly made of very flimsy materials, affording hardly any warmth. Flannel or jean should be used for these parts of clothing.

The *feet* require especial care to preserve them from cold and damp. When the extremities—the hands and feet—are habitually allowed to suffer from cold, the circulation is necessarily unequal, and there must be some risk of producing injurious effects on some of the internal organs, particularly the brain, the lungs, and the bowels. I have repeatedly observed the happy effects of careful attention to the warmth of the extremities, in relieving the embarrassed functions of the internal organs. In the winter season, the shoes should be thick and perfectly waterproof. When a youth is delicate, double soles, with a layer of cork or bladder between them, are advisable.

Wet feet are a most frequent source of cold; therefore, when, on returning from exercise, the feet are in any degree damp, the shoes and stockings should be immediately changed. Soles of *gutta-percha*, or overshoes made of India-rubber, may be recommended here, as excellently adapted, not only to keep the feet dry when the ground is wet (as after a thaw of frost or snow), but also to fence the foot against the cold in the most secure mode possible. Care should be taken that all shoes and boots are made easy to the feet. Corns, bunions, etc., which are almost always the effects of tight or ill fitting shoes, may be avoided by early attention to the comfort of the feet. Shoes must be preferred to boots, as the latter, especially when made with stiff upper leathers, impede the motions, and consequently confine the symmetrical growth of the ankle-joints and other parts.

TEMPERATURE. In the section on clothing, I have anticipated some of the practical remarks which might have been given under the present title; but a few additional observations may serve to confirm the opinions already stated regarding the effects of warmth and cold.

In the first place, I may again notice a popular fallacy to which reference has been made in my remarks on the "hardening" system of training children. I allude to the belief that exposure to heat always renders the body more susceptible of the ill effects of cold. There is some slight basis of fact in this common opinion; but it is by no means true in the unrestricted sense in which it is often understood, while the inferences drawn from it are both incorrect and mischievous.

To clear up this matter, I will first give an instance of a fact which seems to support the common notion. A boy, after engaging in violent exercise, so as to produce free perspiration, sits down to rest in a current of cold air, and remains there until his body is chilled; the consequence doubtless is, that he suffers from that obstruction of perspiration which we term "a cold". Now, observe, the mischief here arises, not from the fact of a sudden change of temperature (as in passing from a warm conservatory into the cool open air), but from the fact that the body is exposed to a greater degree of cold than it is able to resist. It by no means follows that the boy would have suffered in the same way by leaving a warm parlour and walking a mile or more exposed to the keen frosty air of a winter's morning. Why? Because, by the store of warmth accumulated in his system while he sat by the parlour fire, he is now well able to resist the degree of cold to which he is exposed.

I might easily support this doctrine by reference to numerous undoubted facts. One is too conclusive to be passed over. If any people ought to know the proper means of resisting cold, it must be the Russians, and other inhabitants of the frozen North. Now, the Russians and other natives of northern countries preserve, by means of stoves and double doors and windows, a very high degree of heat in their houses during winter, and yet leave them with impunity to pursue their occupations in the open air. One of their common practices is to leave the vapour bath, and, while in a glowing and steaming condition of heat, to roll themselves in the snow.* Dr. Edwards also found, experimentally, that "in exposing animals to successive applications of cold, their temperature fell the more slowly the longer they had been subjected to the influence of warmth." From this he deduces the obvious consequence—"that those who are liable to frequent exposure to severe cold, are rendered more capable of supporting it by subjecting themselves in the intervals to a high temperature."

The nursery should not be kept at an immoderately high temperature. In winter, the heat should not exceed 60° Fahrenheit. A *good* thermometer (this precaution is necessary, for the instruments commonly sold are often found to be worthless) should be considered an indispensable appendage to the nursery. In recommending the use of a *thermometer,* I do not intend to imply that all its minute variations must be attended to, so as to lead us to alter the dress or abridge the open air exercise of children on account of slight changes of temperature; but this simple instrument might with great advantage be more generally used to indicate the more important, or the wider and more abrupt, changes from heat to cold, and *vice versâ*, to which our climate is so liable.

It is not generally understood that the temperature of morning and evening in spring differs in an important degree from that of the same hours of the day in autumn. In April, the mornings and evenings are cold, because, in the absence of the sun, the damp and cold soil speedily reduces the temperature which the air has acquired during the day. In October, the mornings and evenings are comparatively warm, because the soil, warmed by the summer months, does not so soon depress the temperature of the air. This is one of the facts indicated by the thermometer, and is evidently one of some practical interest to delicate persons, and those who have the care of children.

---

* "The common winter temperature of houses in St. Petersburgh is 64° Fahrenheit; whereas, out of doors, it is frequently as low as — 20°." (Dr. Granville's Travels.) For many useful observations on temperature, the reader may consult a valuable little essay, entitled "Thermal Comfort", by Sir George Lefevre, M.D.

I am so far a believer in the injurious effects of the *east wind*, that, during its prevalence, I would recommend especial care to be taken with regard to temperature and exposure to cold. If there is in our climate any time (excepting heavy rains or snow storms) when we would intermit daily exercise in the open air, it is when a keen easterly wind is blowing. I am inclined to think that, after all the numerous observations which have been made upon it, there is still something in the east wind which has not yet been sufficiently explained. Its peculiar, benumbing, and deadening influence upon animals, and especially upon *fish*,* is very remarkable. Some of its effects, however, may be at least partly explained. The peculiar chillness which it produces, so annoying to persons of a rheumatic habit, may, in a great measure, be traced to its extreme dryness. This causes rapid evaporation from the skin, and consequent cold. The dew-point in spring, and during an easterly wind, is frequently many degrees below the temperature of the air. The effect of such a state of dryness is parching in the extreme to the skin of animals, as well as to the leaves and blossoms of plants. The low dew-point permits the temperature to sink greatly below that of the day, and this increases the injurious nature of the night air in spring.

---

* It is a fact well known by all experienced anglers, that during an east wind, even when the weather is not severely cold, fish generally refuse to take a bait. The *perch*, styled a "bold" fish, and the voracious *pike*, seem to have lost their appetite at such a time. There may be exceptions; but such has been the rule observed ever since the days of Izaac Walton, who prays "that the east wind may not blow" when his disciple goes "a fishing."

Such sudden and considerable changes seem to require modifications of our bed-clothing during the night, as well as of our body-clothing during the day. Yet, the general mode is to have one fixed quantity of covering for the bed in summer and another for the winter, while we neglect other and more abrupt changes. In the case of children, the injury likely to result from such transitions may, in a great measure, be prevented by the use of suitable night-dresses, made *long;* of linen in summer, but of calico in winter. When the nights are very cold, young children may be still further protected by a light warm shawl crossed over the chest, but not so tightly as to interfere in the least degree with respiration. I may add that, if linen bed-clothing be used in summer, it will be well to substitute calico for the winter.

Air. As the important influence of fresh air, or ventilation, in the management of infancy, claims some further notice, beyond the incidental allusions to it already made, I propose to give a few concise observations upon it in a distinct section.

The most obvious means of securing a good ventilation (which must be understood as quite distinct from anything like a violent and chilling draught of air) are, first, a sufficient number of windows for the size of the room; and second, an open chimney. Where these simple means are found not sufficient to produce a free ventilation, we may recommend the excellent "ventilator" invented by Dr. Arnott, which may be fixed in any room at a slight cost, and has, we believe, no accompanying disadvantages. It is obvious that a large room has its advantages; that the windows of a nursery should be thrown open when the children are not there, and, in fine weather, should be frequently partially opened when the children are there. A change of rooms is very desirable, when children are long confined to the house from inclemency of weather. In short, let it be understood well, that a supply of pure air is as much needed by the lungs of the child as the supply of wholesome food is required by the stomach, with this important difference—that, while in the latter instance, the demand is only occasional, in the former it is perpetual. Gymnastic exercises in the nursery are useful; but they must never be regarded as a sufficient substitute for the natural play of children in the open air.

SLEEP. It is one part of the beautiful arrangements of nature, respecting the infant, that it should be *gradually* introduced to the activity and excitement of life. Accordingly, we find that the early period of infancy is passed in *sleep*, and that (apart from disease or uneasiness, resulting from circumstances,) the only natural interruption to repose is the feeling of hunger. The lesson to be deduced from this fact is obvious,—that all unnecessary interruptions of the child's natural state of rest should be avoided.

When a child shows sleeplessness, we have reason to suspect some disorder of the stomach or bowels. When the latter are sufficiently open, the motions are of a healthy bright yellow colour, and free from *mucus*. Flatulency will often be found to be the cause of want of sleep; and, in this case, an occasional dose of rhubarb and magnesia, or of castor-oil, will generally prove the most suitable kind of composing medicine.* I, of course, suppose that every judicious mother will ask the advice of her medical attendant before she employs the dangerous powers of any *opiate* preparations, for the purpose of procuring sleep for the child, and quiet for herself.

---

* Twinberrow's lemon-peel-flavoured castor-oil is an excellent preparation for infants and children.

Leaving the period of early infancy, I must say a few words on the great importance of training the child to regular habits in retiring to rest. Six o'clock in the winter, and seven in the summer, are suitable hours, and nothing should be allowed to interfere with the regular time allotted for sleep. Children who are frequently allowed to stay up late (as a treat!) become feverish, excitable, and more and more indisposed to retire to rest at the proper time. With regard to the amount of sleep to be allowed to a child, no exact rule can be laid down—for one child may require more than another; but when a child is trained to go to bed soon after its last evening meal, and is permitted to sleep without disturbance, and wake of its own accord, then, if the waking hour is found to be too late, we may conclude that the hour of retiring to rest has not been sufficiently early. Early rising cannot be successfully inculcated without strict attention to regularity in going to bed. During the period of boyhood, (or from eight to fifteen years of age,) the hour of retiring to rest should not be later than *nine*. We may then reasonably expect the boy to rise, perfectly refreshed and invigorated, at *six* in the morning. Let it be remembered, that not merely physical health, but character and success in life, may depend on the inculcation of these regular habits.

The material employed for the beds of children is of some importance. It should be firm, somewhat elastic, and such as may be readily dried. A small tick, filled with straw or oat-chaff, will be suitable for young children; but the straw or chaff should be frequently changed. When the children are older, a hair mattress may be substituted. This should be exposed daily to a free current of air, and in summer it may be well to place it sometimes out of doors, in the sunshine, for an hour or two. The luxury of a soft feather bed cannot be in any way recommended as suitable for children. Nor can we recommend night-caps. Care being taken that the head is not exposed to a draught of air, a child may safely and advantageously sleep without the incumbrance of a cap. The notion that sleeping without a night-cap is injurious to the hair, is quite erroneous. Excepting the cases of infants sleeping with their mothers and nurses, it is not advisable that young children should sleep with adults, and it is especially injurious when they sleep with elderly persons, as Dr. Roget has clearly proved that, in this case, heat is unduly abstracted from the infant body.

BATHING, ETC. *Washing.* Too much attention can hardly be paid to cleanliness during infancy and childhood. Careful washing should be performed daily, until the child is able to attend to its own comfort. In the early stage of infancy, warm water may be used with a fine sponge, and care should be taken not to allow exposure of the body so long as to produce fatigue or any severe impression of cold. We have known bad results to follow too protracted exposure in washing, and tardy movements in dressing the child. These are errors particularly likely to be committed by an inexperienced mother, for the first time taking charge of an infant.

As the child grows stronger, and when the weather is warm, we may gradually diminish the temperature of the water, until we may use it nearly or quite cold; but there should be no haste in employing very cold water. It will generally be well for the water which is to be used in the morning, to remain in the nursery during the night, in order that it may acquire the temperature of the air of the room

I strongly protest against the common error of bathing *infants* in cold water with a view to "hardening" them; they should have daily tepid ablutions only, unless in summer weather, when the water is comparatively warm.

Bathing. Perfect cleanliness cannot be secured without the frequent immersion of the body by bathing, and less than this will not suffice to keep the skin in a healthy and perspirable condition; indeed, without frequent bathing, that healthy vigorous action of the vessels of the skin cannot be maintained, which is so conducive to health in the child as well as in the adult. The now frequent use of the bath in its various forms, is one of the few continental customs which we might adopt with advantage; but it is gratifying to observe, that public attention in this country is increasingly directed to this cleanly and wholesome habit.

As far as it relates to the management of infancy and childhood, I will give a few concise directions on the subject of bathing.

Baths are either *hot*, *warm*, *tepid*, or *cold*.

The temperature	of the	*hot* bath	is above	98° Fahr.
,,	,,	*warm*	from	85° to 98°
,,	,,	*tepid*	,, ...	65° 85°
,,	,,	*cold*	,, ...	32° 65°

The temperature of the morning and evening bath should be about 90° or 96° Fahr.; and on no account should the infant be submitted to *cold* bathing during the first few weeks of its existence.

"To use cold water," writes Dr. Conquest, "at this early stage of being, is most hurtful, dangerous, and cruel; and no means will be found more efficacious in producing disease."*

I may here contradict the erroneous assertion, that the warm or tepid bath has a "weakening" effect on children. This is by no means true: rather, by cleansing the pores of the skin, and thus assisting both perspiration and circulation, it is as beneficial to health as it is soothing and comfortable. I may add that, though mothers generally pay more attention to bathing children in the morning than at any other time, it is highly desirable that the child should be thoroughly cleansed from dirt and perspiration every evening before he is put to bed. The temperature of the bath may be *gradually* diminished, until, at the age of three or four months, and if the infant is healthy, the cold bath at 65° may be used every other morning instead of the tepid bath; but this must be discontinued if not followed by a glow of warmth.

---

* Letters to a Mother. By J. T. CONQUEST, M.D.

During the use of the bath, particularly in cold weather, the air of the nursery should be comfortably warm, and the exposure of the naked body should not be unnecessarily protracted. Brisk but gentle friction of the body immediately on its removal from the water, and rapid dressing, will be the most likely means to secure the beneficial effects of the bath. In this way most children may be gradually brought to the use of the *cold* bath every morning; but some will be found unable to bear it with impunity, however constantly it may have been employed, and it will be well for the mother to know when the use of the cold bath should be abandoned. If after the bath the child is chilly and languid, depressed in spirits, torpid and drowsy; if the countenance is pale, and the lips livid; and if the surface of the body continue cold, it is clear that the bath is injurious and should not be repeated. In cases where the cold bath cannot be borne, all the benefits of a general bath may frequently be obtained by means of a miniature shower bath. This may be done by dropping water on the head and shoulders, by means of a tin vessel perforated with holes, and held over it; a very convenient vessel may now be purchased for this purpose, the flow of water being regulated by the pressure of the thumb upon an opening in the handle.

Moderate exercise is advantageous before bathing; if the child is too young, friction of the body may be substituted.

The best period for *sea bathing* will be about two hours after breakfast: but the child must not be previously exhausted by over fatigue, nor should it afterwards be too much exposed to the cold currents of air on the sea shore.

Whatever form of bathing be adopted, all violent plungings should be avoided, as likely to excite the alarm of children, and to do more harm than good. The use of the bath should studiously be made as agreeable as possible, when it will soon be really enjoyed and anticipated; but much here will obviously depend upon the judgment of the nurse.

Light.—If we were less confined to remarks immediately practical, we might raise here many very interesting questions respecting the influence of light upon health, especially on the due growth and development of young animals. Whatever may be its mode of action, the fact that it does act in a very important degree upon the animal economy is undoubted, though the influence of light is far less considered than that of air. When we observe the blanched countenances of children (especially such as reside in close murky lanes) in large towns, we are doubtless correct in ascribing such unyouthful symptoms in youth partly to the want of fresh air and exercise; but we judge the case imperfectly if we do not take into consideration another serious want—the want of a fair supply of natural light.

If we require familiar instances of its influence, we have only to glance at some common facts in the vegetable world. We may easily observe the effect which the gardener produces on the stem of the celery plant, simply by keeping it without light. If allowed to grow naturally, or exposed to the light, it would soon become strong, fibrous, and darkly coloured; while, excluded from the light, it becomes, as we see on our tables, blanched and tender. We might also refer to the extreme delicacy of structure, and the pallid hues which mark the species of fungi vegetating in dark cellars. But especially we may notice the example afforded by plants cherished in our windows, when they are not freely exposed to the direct light of the sun. See how they seem to crave it! how they turn toward it, as if they would enjoy every possible ray, and expand every leaf and every flower in the direction from which the sunlight proceeds! It is evident that they cannot live, develope themselves, and become beautiful without it. Natural analogies would lead us immediately to conclude, that the effect of light must be as important on the animal as on the vegetable organization, and direct experiments will soon confirm the conclusion.

To mention here only one—the physiologist to whose writings we have already made some reference—Dr. Edwards, in a course of ingenious experiments shewing the influence of light upon the development of animals, has found that creatures which naturally change their forms (tadpoles for instance) "are prevented from doing so by the withdrawal of light."

It has been noticed that those who live in caves or cellars, or in dark narrow streets, frequently produce deformed children; and that miners and colliers are more prone to disease and deformity than they would be from the mere breathing of a close atmosphere.

Some time ago a number of poor people went to reside in certain dark cells under the fortifications of Lisle, where they produced such a number of deformed infants, that it was deemed necessary to order the cells to be shut up, and not to be used as the habitations of human beings.

Sir A. Wylie has recently stated, "the cases of disease on the dark side of an extensive barrack at St. Petersburg have been uniformly, for many years, in the proportion of three to one to those on the side exposed to strong light."

Humboldt and other travellers inform us, that in hot countries, where it is customary for the inhabitants to go in a state of complete or partial nudity, the development of the bodily organs takes place very early, and it is rare to witness an instance of personal deformity. The Mexicans and Peruvians, the Chaymas and Muyscas of South America, the Carribs of the Antilles, the inhabitants of the numerous group of South-Sea Islands, the free inhabitants of Africa, all possess fine muscular and rounded forms in general, and they have little in common save the practice of the free exposure of their persons to solar light.

"The beneficial effects of 'change of air' may be partially due to insolation—that is, free exposure to the sun's rays, which appear to cheer the drooping and desponding inhabitant of the city, who is sent to wander amid rural scenery in search of health and vigour."*

Happily, the recent repeal of the window-tax renders it less necessary to insist on the importance of light in a sanitary point of view; but our remarks may be useful to some who systematically, and by many contrivances, exclude the bright sun-light as if it possessed some pestiferous rather than health-giving influence.

---

* See an excellent paper "On the Influence of Solar Light in relation to the Public Health", by James Orwin, Esq., Worcester, in the *Journal of Public Health*, July 1848.

Many instances might, if necessary, be produced to prove that we must pay regard to the influence of light in the nursery and the school room, as well as in the greenhouse. To notice distinctly its effect upon one organ—it is evident that as a flower cannot attain to its full brightness of colour, so the human eye cannot attain its normal degree of strength without a fair exposure to natural light.

The practical lessons to be deduced from these facts are sufficiently obvious. They should teach us freely to expose the infant to the power of light, as soon as the eyes have overcome their first extreme sensibility; we speak of the diffused light of day, and not of strong artificial light, for the latter is injurious. They teach us not to darken the nursery during the day; not to close the shutters during the night; on no account to use window-curtains in the nursery; and, as often as is practicable, to remove the child from the murky atmosphere of the city, to the purer air and more cheerful light of the suburbs.

It is scarcely necessary to add, that a full supply of light ought to be an especial object of care in the school room, as the eye is so much exercised there.

EXERCISE AND AMUSEMENTS.

In summer, and when the weather is fine and genial, the infant may be taken into the open air to enjoy the sunshine, even so early as at a fortnight after birth, but in winter not sooner than at a month old, and then only when the weather is very mild, and in the middle of the day. When two months old, the child may be taken out more frequently, and at the end of the third month the open air may be enjoyed every day when the weather is fine and the wind not easterly. When carried out, the child should be warmly clothed, but the face should not be closely covered with handkerchief or veil, as is commonly the practice.

We do not recommend the use of children's carriages, but they may be in some cases required; as when the nursemaid is not strong enough to carry the child, or where there are two children, both unable to walk, and only one nursemaid. Premising that no other exercise can be a sufficient substitute for the enjoyment of the open air, and that a child can hardly have too much exercise out of doors when the weather is genial, we may now offer some remarks on exercise *within doors.*

It is by no means necessary that the infant, when at home, should be kept always either in the cot or in the arms of the nursemaid. It may frequently be laid down on a bed, sofa, rug, or carpet, and (with due regard to its safety) be allowed freely to exercise its limbs. This is a good practice; but some other modes of amusing or giving exercise to children in the house must be reprehended, for instance, the practice of "hoisting" or lifting the child, resting only upon one hand. Some parents and nursemaids, we believe, are addicted to this amusement; but there is some danger, as the child's chest is compressed by the hand on which it rests, and the thumb and fingers on each side. A child should never be lifted so that its whole weight depends on one or both of its arms. Very injurious consequences have followed this bad practice. In general, we may observe that all violent motions should be avoided; gentle movement up and down, or sideways, is the most suitable for a child in arms.

The child should be allowed to remain quiet after being applied to the breast; any violent exercise when the stomach is filled, is likely to produce sickness or indigestion.

As the child advances in strength, it should be freely allowed to exert itself *voluntarily*, but no sort of coercion should ever be employed to make it walk. This caution may be especially noticed when a child is stout and heavy, for in such a case, attempts in walking made *too soon* are likely to produce some deformity of the lower limbs. Children are excellent judges of their own strength, and should be left to exert it in a voluntary style.

That novel appendage to the nursery, the "*Baby-jumper*," requires some notice here. Its use furnishes an agreeable pastime for the child (even as soon as three or four months old), gives good exercise to the limbs, expands the chest, and promotes a brisk circulation of the blood. In these respects (and also with a regard to safety from falls, etc.), it is certainly superior to some other expedients, such as the "go-cart", the wooden loop revolving round a pivot, or the stationary chair and front bar. But in certain cases its use should be attended with precautions. When a child is stout and heavy, in disproportion to the strength of the legs, then, if the "baby-jumper" is employed, the hoop must be adjusted at such height as not to allow the weight of the body to bear on the feet; without this precaution curvature of the legs may be induced.

We have now to speak of the exercises and amusements suitable for *youth.* Gymnastic exercises for boys have lately received more attention than formerly, and very properly; for, when practised under the direction of a skilful and judicious teacher, they are likely to be very serviceable. Care, however, should be taken that the youth does not overtask his powers; for, when immoderately practised, such gymnastic exertions may have a tendency, while they strengthen certain muscles, to stunt the general growth, and also produce ruptures and injuries of the joints. But we must lay especial stress on the rule,—that under no circumstances should the exercise of the gymnasium or the dancing school be allowed to supersede daily play in the open air.

And here, in passing to the distinct topic of amusements, we would insist on the great difference between even the best regulated course of routine exercises and that best and most natural recreation of mind and body which is to be found only in *hearty play:* walking, gardening, marching in military order, and many other modes of exercises, are very well in their proper place, but must not be regarded as substitutes for *play.* They can never, however judiciously employed, produce that flow of spirits, that invigorating effect on both mind and body which is found in genuine play. The spontaneous nature of the exercise taken in youthful sports, the freedom from routine and restraint, the excitement of spirit and flow of good humour, are in the highest degree beneficial. It is well not to interfere in the games of children beyond the necessary point of warning them against sports which are dangerous or otherwise improper. Some of their sports may be briefly noticed here.

Running races of moderate length seems unobjectionable. For *leaping* and *vaulting* we can hardly say so much, as the efforts made in these amusements are sudden and violent. *Cricket* as usually played by boys, and several other games with bat and ball, may be noticed as safe and good exercise. On the contrary, "leap frog," and some other similar games, in which boys leap over or upon the backs of their playmates, ought to be discouraged; and this, we think, might be most effectually done by explaining clearly to children the very serious effects of injury of the spine. We especially refer to a stupid game which we remember to have seen often in our school days; in which a heavy boy will jump violently on the back of some weaker playmate, and remain seated there until the cowering victim has been fortunate enough to guess something or other. It is well that parents or teachers should be aware of some of the awkward and unsafe games played by boys, in order that they may dissuade them from such exercises. Throwing *quoits* affords excellent exercise for the arm and the eye; but may, perhaps, be regarded as attended with some little danger on account of the incautiousness of boys.

Some especial remarks seem called for on the exercise of *swimming*. This is something more than an amusement: it is the acquisition of a power that may be, at some period of life, very useful and important. A boy should, whenever it is possible, learn to swim under proper tuition, and in perfectly safe circumstances. When he has acquired the art, he should be instructed concerning its true use, and warned that it may not lead him into danger, as in bathing alone in deep places, or swimming out far beyond his depth. It is doubtless true, that of the number of young persons drowned in the course of a year, a considerable proportion will be found of those who could swim well enough; and who thus exposed themselves to danger, either from *cramp* when bathing alone, or by swimming out of depth too far. It would be a safe rule for every swimmer to resolve to be almost, if not quite, as cautious as others are who cannot swim. The true use of swimming is found in the security it affords against accidents when near the water. Thus, boys may be playing near a canal; or fishing on a river bank; or merely crossing a river in a boat:—one falls in, perhaps, close to the bank, where a little presence of mind and the power to swim only some two or three strokes would save him; but life is frequently lost for want of this slight degree of skill which may be so easily acquired.

Of *sedentary exercises* and amusements (for winter evenings and leisure hours in rainy weather), we need say little, as they are not immediately connected with the topic of juvenile health. Chess and draughts are among the best, as they furnish very agreeable exercise for some important powers of the intellect; while they are quite free from everything like a tendency toward gambling. When children are favoured with a taste for music, the exercise of singing (especially "part-singing") is highly to be recommended; but playing the flute and other wind-instruments at an early age is likely, we think, to be injurious.

Of in-door exercises for girls, we may not say much; for unfortunately, their own ingenuity is sufficient to invent so many—in "crotchet-work," "Berlin worsted-work," making toys and ornaments, etc., etc. (to fill up the catalogue would overtask our powers)—that, in too many cases, healthful exercises are almost entirely neglected; while the greater part of leisure is devoted to sedentary pursuits. It is too little insisted on that girls, as well as boys, require a full allowance of hearty, natural play in the open air; and that, when the weather will not permit this, the best in-door substitutes should be provided, in skipping, dancing, battledore, throwing balls, etc. Having mentioned dancing (which is doubtless one of the most graceful and becoming exercises of young ladies), we must add that we cannot look on the excitements of the ball-room as healthful for young persons. On the contrary, we think that the late hours observed at such places, the ambition of dress, the hot atmosphere of the crowded room, and generally, the nervous excitement and consequent fatigue and depression, are evils more than sufficient to counterbalance the good effects which might be derived from the physical exercise.

NURSERY AND NURSEMAIDS.

The health and comfort of children must greatly depend on the cleanliness, airiness, and good ventilation of the room in which they spend a large part of their early days. The nursery, therefore, should be a large room, airy, well ventilated, and easily warmed; neatly painted and papered, but not encumbered with furniture; especially, carpets and curtains may be dispensed with, as they are by no means useful in a nursery, and may interfere with due ventilation and cleanliness. An upper room is preferable; and it is always desirable, if practicable, that the nursery should not be used as a bedroom. Let it be scoured once a week, or oftener, if required. Special cleanliness and order in all arrangements should form a part in the early *practical education* of children. Doors and windows should be opened, so as to admit free currents of air through the room whenever the children are away at their meals, or taking open-air exercise; and in cases where the nursery *must* be used as a sleeping-room, special attention should be given to have the room filled with fresh air every morning. Attention must also be paid to the due regulation of temperature, so as to avoid sudden chills or an oppressive degree of warmth. The aspect of the room must be noticed here; for if the room faces the north, it will be found, especially in certain seasons of the year, far colder than a room which looks towards the south. When a fire is required, it should be properly guarded, and regulated so as not to produce an immoderate degree of heat.

About 60° F. may be regarded as a safe measure of artificial warmth. In summer and autumn, while the days are bright and warm, a small fire may often be required in the morning and the evening. On no account should a fire be kept burning during the night where children are sleeping, except in cases of illness. We would repeat that, wherever it is practicable, the room should be used *solely* as a nursery, so as to exclude cooking, washing, and other household operations.

We now turn to a point of still greater importance; one which must have influence on not merely the physical, but also the mental and moral wellbeing of the children—the selection of a nursemaid. No parent who has studied the opening minds of children, who knows their delicate susceptibility of early impressions, and who remembers, in his own case, how lasting these impressions may be, will suppose that we exaggerate the importance of the nursemaid when we say that she should be regarded as the *first educator* of the children committed to her care. There is an early education carried on by means of sympathy, example, and unconscious imitation, in which even the infant may make a considerable progress before he is able to lisp one distinct syllable. Calmness of temper and cheerfulness, or, on the other hand, waywardness and fretfulness, may be inculcated long before the child has learned the first three letters of the alphabet. This early but important and practical part of education greatly depends on the character of the nursemaid, and it is therefore evident that she should not be chosen as an ordinary servant, but should possess qualities not generally found in the common order of servants. Her temper should be first of all regarded, and should be mild, cheerful, and forbearing. In her personal habits she should be regular, orderly, and perfectly cleanly.

It is obvious that a self-indulgent woman can never be a good nurse. Her language should be free from vulgarisms, and it is desirable that she should be able to read and write. We hardly need say that if she has had children, and has proved herself a good mother, this must greatly add to her qualifications. She should, above all things, be a woman of strictly religious character; and if there is one moral quality more valuable than all others in a nurse, it is a firm hatred of *falsehood* in all its forms, such as deceit, equivocation, evasiveness, and dissimulation. She should never deceive a child, nor suffer herself to be deceived. Mild but regular and firm maintenance of authority should be her mode of rule, and she should never have recourse to such means as coaxing, flattering, or deceiving a child, in order to bring him to obedience. Among other means that must be interdicted, we may especially notice *fright*. The minds of many children have been seriously injured by alarming impressions made on the imagination by the tales of servants and nurses. The tales chosen to amuse children should always have an innocent, playful, and cheerful character.

One who possesses the qualifications we have already described, and, in addition, has some tact in amusing children, is indeed "a model nurse", and quite invaluable in a large family. We must beg to remind mothers, that servants who are really qualified to superintend, as we have stated, the early practical education of children, are certainly deserving of liberal wages. By giving good salaries to such nurses, we should encourage a superior class of young women to devote themselves to the early training of young children.

If the influence of the nurse is so important even in the early period of infancy, or while the training of the child is chiefly physical, it must increase greatly when the development of mind and of the power of language render the child capable of receiving distinct mental and moral impressions which may last for life. Surely we can scarcely exaggerate the importance of training and example during this period, when the germs of all the vices or of all the virtues may be implanted in the mind. To realize the extent of influence which the nurse or maid who has the charge of children may exercise during the first stages of mental and moral development, it may be well to imagine two strongly contrasted cases, but such as may and indeed do occur in actual life. In both cases we will suppose that the children are almost entirely and continually under the care of the nurse or nursemaid, who really occupies the place of the mother during the greater part of every day.

The nurse or nursemaid A, is kind, mild in temper, patient, cheerful, orderly, and calm in her habits, strictly truthful and conscientious, and has tact in gently managing and amusing the children under her care—in short, she is the "model nurse" already described. All her good qualities may be said to pass from her into the minds of the children. If they are naturally passionate, this evil will at least, in some degree, be subdued by her mildness and kindness. All tendencies, whether good or bad, require external aid and encouragement for their growth; and as, with such a guardian and friend (as she may be truly styled), every good faculty in the minds of the children will be called forth and encouraged by example, while every evil tendency will be repressed, the results may be expected to be of the happiest kind.

But suppose the contrary case; imagine the nurse or nursemaid B, hasty and irregular in temper, disorderly in habits, and deceitful or careless of truth, what will the results be now? It is lamentable, but too true, that these results may be predicated with more certainty than in the former case; for good example may sometimes be without influence, but evil tendencies are rapidly developed by the force of bad example. Sometimes, when the nurse happens to be in a careless mood, the children may have their own way, until, in a sudden outburst of temper, they are corrected with violent and unseemly words, or perhaps blows. At other times they are "*coaxed* to be good," and learn to believe that orderly and decent conduct is good, now and then; not in itself, but because it is rewarded by a treat of sweetmeats. They soon learn to regard a falsehood as a very convenient thing, and after practising it upon the nurse who has taught them to do so, they will, of course, be led to try its effects on their parents. In short, under such care, or rather want of all proper care, we may expect to find children fretful, wayward, quarrelsome, deceitful, and selfish; to say nothing of uncleanly and disorderly habits. A greater cruelty can hardly be practised than to leave children under the management of such a nurse. The bad influence of her character and conduct may lead to the most serious evils in the future lives of her young pupils, or we might say victims.

We trust that our remarks on this point may serve to suggest to some parents the importance of regarding the domestic to whom they confide the general management of children, as something more than a servant occupied in attending to their physical wants. However she may be styled, as "nurse," or "nursemaid," she is in fact *a teacher*, and must, on account of her position, exercise a very serious influence over the early development of mind and disposition.

VACCINATION.

As Coleridge has suggested, in one of his essays,* if we would have a lively impression of the benefits which science, when directed by benevolence, may bestow on mankind, we have only to meditate a while on the life of Jenner, the discoverer of vaccination. His name is, indeed, worthy of everlasting remembrance, not merely on account of the gratitude due to the man, but also the lesson of hopefulness it must suggest to all who make the welfare of humanity their study.

A century has not passed away since that dreadful disease commonly called the *small-pox* was a devastating plague, spreading itself rapidly by infection, and bidding defiance to all the power of medicine. At one time, we find it making almost desolate towns and villages in England; at another, following the course of civilization, and sweeping away whole tribes of Indians in North America.

As a means of tempering the virulence of the disease, the practice of *inoculation* was found to be the most successful previous to the introduction of the safer and far more effective system of *vaccination.*

Lady Mary Montague introduced into our country the system of inoculation from Turkey, where her own son had been inoculated with perfect success, in the year 1718.

---

* In the "Friend".

But this system of dealing with the disease, though it might modify symptoms, had no power to stop the progress of *infection.* On the contrary, *every case of inoculation was a new source of contagion.* To Jenner, then, belongs the discovery which, if not baffled by ignorance and prejudice, *must extirpate the small-pox.* Facts will prove our strong assertion.

Edward Jenner, a surgeon practising at Berkeley in Gloucestershire, became acquainted at an early period of his life with traditional accounts of the security against small-pox afforded by the casual introduction of a disease occasionally prevalent among the cows in that county. In this form of disease, *pustules* appeared upon the nipples of the cows, and the hands of the milkmaids were affected. On this simple and apparently unimportant fact, Jenner meditated, and the result was his practice of vaccination. He found that the persons who had been affected with the vaccine disease, afterwards became unsusceptible of the infection of small-pox; and, in a happy hour, he conceived the idea that it might be possible to extend the protection enjoyed by a few persons even to the whole population, by an artificial communication of the vaccine disease from one individual to another. Accordingly, on the 14th of May 1796, he made his first *vaccine inoculation,* upon a boy named James Phipps. On the 1st of July following, the experiment was tested by inoculating the same boy with small-pox matter, taken directly from a *pustule.* This test was repeated after some months, and the satisfactory result was, that "no sensible effect was produced upon the constitution." These experiments were repeated upon other subjects; and, in June 1798, Jenner published his first work on vaccination.

It cannot be too distinctly repeated, that the proper result of this grand discovery *ought to be the extinction of small-pox;* but it must be deplored that the prejudices which have delayed the perfect triumph of science over disease in this instance are still found to exist. These prejudices, therefore, demand our serious notice.

But, first, it may be well to give a description of the progress of the *vaccine vesicle,* especially as it is thought by many persons that cases of small-pox occurring *after* vaccination are more frequent than formerly. If this is a fact, it must be desirable that strict attention should be paid to the genuineness of the *vaccine* eruption.

On the third or fourth day after the operation, a small red pimple may be observed, hard to the touch, and slightly elevated. This pimple gradually enlarges; and, on the fifth or sixth day, a vesicle may be observed, of circular form, elevated at the edges, but with a depressed centre. It goes on increasing in size until the tenth or eleventh day, when it is usually about four lines in diameter. The size and shape, however, of the vesicle vary considerably, according to the mode of vaccination. If by simple puncture, it is generally small and circular; whereas, when several scratches have been made, two or three vesicles may rise and run together, forming an irregular-shaped patch. The colour of the vesicle is at first a light pink, sometimes with a bluish shade, gradually changing to a pearl colour. The margin is lighter than the centre, firm, turgid, and shining. Internally the vesicle consists of numerous little cells, filled with clear transparent lymph; and, according to Dr. Willan, these cells communicate with each other. The quantity of lymph varies considerably in different vesicles, and will be usually found to possess activity in an inverse proportion with its quantity.

On the eighth or ninth day, an inflamed ring appears around the base of the vesicle, spreads rapidly, and forms, about the tenth day, an areola of an inch and a half or two inches in diameter. This inflamed ring is very red, and somewhat hard and tumefied. After a day or two, the redness begins to fade, generally from the centre towards the circumference, sometimes forming two or three concentric rings. About the tenth day the vesicle begins to decline; the centre first turns brown, and the entire vesicle gradually changes into a hard, smooth crust, of a dark brown colour, having, like the vesicle, a concave surface. About the twentieth day the crust falls off, leaving a permanent circular cicatrix, slightly depressed, and marked with small pits, probably equal in number with the cells of which the vesicle has been composed.

This is the usual course of the eruption. It sometimes appears a little earlier, sometimes a little later; but, if the subsequent stages are regular, slight deviations with regard to time are of no importance. The progress of the vesicle may sometimes be interrupted for a time by other diseases in the system, and afterwards it may advance as usual. Constitutional symptoms are generally slight. Between the seventh and the eleventh day, there may be some restlessness, slight shiverings, followed by heat and thirst, and, in the case of infants, sickness, peevishness, or drowsiness.

We have now to mention a prejudice, which, though it may be harmless (save with regard to the reputation of the medical man), has caused much unnecessary suspicion and anxiety in the minds of parents. We allude to the supposition that cutaneous disorders are frequently introduced from one family into another by means of vaccination. We might easily prove that the cutaneous diseases which may be transmitted by infection are few, and that it is not possible to communicate eruptions by vaccination to the extent imagined by many; but, allowing all reasonable care on the mother's side, that the *lymph* used in vaccinating her child should bo taken from another child as free from disease as possible, we must still reprehend that exaggerated care and suspicion, which is often found to be very annoying to the most conscientious medical practitioner. We must enter a protest against the excessive power of a maternal imagination, when we see scruples carried so far as to the rejection of vaccine lymph from the arm of a child whose grandfather happened once to have a cutaneous eruption of a temporary character, or whose father or mother may not enjoy the highest degree of florid health. In consequence of such exaggerated fears, woe to the medical man who has vaccinated a child with lymph taken from another known to have the slightest cutaneous eruption at the time; he is thereby accounted the sole cause and author of every spot or pimple which may ever after appear on the child of the too suspicious mother! In writing this, we do not of course advocate anything like carelessness; but we would strongly advise all reasonable parents to leave the choice of lymph, etc., to the care of their medical man, and not to render his duty unpleasant by the obtrusion of any ill founded scruples. In general, we may observe, that the appearance of the perfect vaccine vesicle is a sufficient evidence of freedom from any serious cutaneous eruption.*

---

* Since writing the above, we have been glad to find our conclusions confirmed by a gentleman who has extensively practised in his profession for a period of more than forty years. Dr. Coley writes: "It has been supposed by many that the efficacy of cow-pox is deteriorated by the co-existence of other eruptions, and that almost every cutaneous disease which happens to follow is the product of vaccination; *strophulus confertus*, in particular, has

As legally required, vaccination should generally be performed before the infant is three months old; but when circumstances require especial precaution (as when small-pox is actually in the family), the child may be vaccinated even soon after birth. Whenever it is practicable, the *lymph* should be communicated *directly* from the arm of a child, as it is then more likely to be efficient than when conveyed upon points or glasses. At least two points of insertion should be made, and one vesicle should be allowed to go through all its stages unopened. When one puncture alone has succeeded, it should not be interfered with, except when the child is re-vaccinated soon afterwards.

If a reasonable doubt exist of the efficacy of the vaccination, it should be repeated. In this case, we may repeat our observation that it is most satisfactory to communicate the lymph *directly* from one child to another. We may also observe that warm weather is favourable to the efficacy of the operation. Some subjects, owing to their idiosyncracy, are found to resist the effect under all circumstances.

It is necessary to specify here the characteristics of spurious vesicles appearing after vaccination. It will be a safe rule to regard *all* as spurious which do not correspond with the description already given. The characteristics to be noted in the genuine vesicle are, its circular form depressed in the centre, and the broad vividly red *areola* surrounding it. In the absence of these signs, neither parent nor medical attendant should rest satisfied without immediate re-vaccination from the arm of another child.

---

been most unjustly attributed to this source. In contradiction to this prejudice, I can safely say that more cases of this disease have come under my notice *before* than *after* cow-pox inoculation; and it is as unphilosophical to suppose that vaccination can generate *strophulus*, as that a grain of wheat can produce a cabbage." (*A Practical Treatise on the Diseases of Children.*)

The doctrine held by some medical practitioners, that the protective influence of vaccination is *lost* in the course of time, demands some notice here. Some think that the operation should be *repeated* once in seven years; others say once in ten years. We have not yet met with facts enough to convince us of the necessity of such repetition; but, if it is an error, it is certainly one on the safe side, and we would say nothing to dissuade persons from submitting to re-vaccination, especially in a neighbourhood where small-pox is prevalent. We have, however, in such cases, re-vaccinated many persons, at intervals of from six to thirty years after the first operation; and our experience leads us to the conclusion that, when the re-vaccination takes effect, it is the rare exception rather than the rule. We are, therefore, not yet convinced that the universal practice of re-vaccination is really required; but, as a safe precaution, it may be adopted in any case of special exposure, as when the small-pox is spreading in a neighbourhood, or when any person feels alarm when required by circumstances or duty to go into the midst of the contagion.

It might be thought that, at the present time, when the immense advantages of Jenner's discovery have been so fully tested and demonstrated, any remark on the old process of small-pox *inoculation* would be quite uncalled for in a practical treatise; or, if we mentioned the topic, it might be only as a matter of history, just to say that in its time it was useful as a palliative, but that it had been superseded and numbered among other things obsolete, by Jenner. Strange as it may appear, however, there are prejudices living *in favour* of inoculation (a process which, as we have already stated, actually *spreads* the infection) and against the safe and sure system of vaccination, which, if fair and full play be allowed, must exterminate the disease. These prejudices must indeed be hardy, if they can survive much longer under the pressure of the host of facts which can be brought upon them. We cannot leave this part of our subject without a word of earnest remonstrance with those who, by favouring the process of small-pox inoculation, and actually daring to practise it (at the risk of the penalty imposed by law), are contributing their efforts to keep in existence a devastating pestilence. However good their motives may be, their conduct is as unreasonable and mischievous as that of parties who would carry supplies of fuel to assist the progress of a fearful conflagration, while all right-minded persons are endeavouring to extinguish it. Surely, these harbourers of old and destructive prejudices require, for their cure, to be carried back a century (at least in imagination), and to see and feel the horrors of one visitation of the fell disease with which they dare to tamper—to see villages laid waste and homes made desolate by the pest! That such scenes cannot be *now* pointed out in England, no thanks to the method of inoculation, but to that process of vaccination against which prejudice still is bold enough to speak. Or must we take a milder way of dealing with a most injurious error? Then let us point to the *volumes of statistics*, from all countries and in all languages, a vast host of facts, all contributing strength to confirm the assertion that the natural course of Jenner's discovery is, not to alleviate merely, but to *exterminate* the disease called small-pox! As one striking instance of the certainty of these statistics, we will quote from the records of Sweden, a country where, happily, the universal practice of vaccination is enforced by the authority of Government. Let those who may imagine that we have spoken too strongly, reflect only a few moments on the facts presented to them in the following table:—

In Sweden, in the year	1779,	small-pox	destroyed	15,102	persons
	1784	”	”	12,453	”
	1800	”	”	12,032	”
	1801	”	”	6,057	”
	1822	”	”	11	”
	1823	”	”	39	”
	1845	”	”	6	”
	1846	”	”	2	”
	1847	”	”	13	”
	1855	”	”	41	”

A reduction of from fifteen thousand in one year to only six and two lives in other years sacrificed to the disease! Surely these few figures speak more than many volumes of mere argumentation. How, in the face of these unquestioned facts, can any one be so totally blinded by prejudice as to cavil further against vaccination, or ask for inoculation, with all the fearful risk attending it?

With such a clear and sure example before us, there can be no doubt of the propriety of having vaccination *legally enforced* in our own country; consequently, a few years ago, the "Vaccination Extension Act" was passed, and a penalty is now incurred on refusing to allow a child to be vaccinated. We need not hesitate a moment in putting, for the sake of the general welfare, some restraint upon the personal liberty of persons who have such an obliquity of mind on this subject, that they are incapable of acting with a due regard to the welfare of their own offspring and the safety of their neighbours. If A, the prejudiced party, in refusing to have his own family guarded by vaccination, could also take the whole of the risk upon *himself*, or at least confine the danger within *his own house*, there might then be a question of the propriety of any legal interference with his prejudices; but when by such conduct he subjects his more reasonable neighbours, B and C, and indeed the whole population around him, to danger and anxiety, it seems clearly a proper case for the interference of Government.

If additional facts were necessary to justify these remarks, the following extract from one of the Registrar-General's Quarterly Returns in 1852, will be amply sufficient:—"Small-pox has prevailed very extensively; and the provision of gratuitous vaccination for the people by the legislature, appears to be insufficient to stem its terrible progress. Several of the registrars who witness its effects, urge that many lives would be annually saved—sickness, misery, and deformity prevented—if vaccination were enforced by law. The grounds of objection, independently of negligence and apathy, lie generally in the ignorance, often in the prejudices, of the parents. These prejudices can be best and most permanently overcome by the persuasion and argument of zealous vaccinators, fortified as they will be by the experience of the neighbourhood, and such facts as the following, which cannot be too generally known:—

"'One extraordinary case,' says the registrar of Tardebigg, Bromsgrove, 'which shows most strongly the advantages and importance of vaccination, has occurred in my district. A man residing in a rural part of this neighbourhood had five children, varying from three to ten years of age; three of these had been vaccinated, the other two had not. The eldest was attacked with small-pox, but had it so lightly that he was confined scarcely a single day; the two next were not affected at all with the disease—these were the three that had been vaccinated. The two youngest were seized with small-pox almost simultaneously; both died, and lay dead in the house at the same time—these were the two that had not been vaccinated.'"

It may be said that, while the disease small-pox is still harboured among certain portions of the community, even vaccination, though successful in such a vast majority of instances, is not found to be an *infallible* preservative. Nor is inoculation by small-pox itself infallible. But small-pox occurring after vaccination is well known to be greatly modified and alleviated in its character, and far less fatal than formerly. Abundant statistics might be adduced to prove this.

To conclude; the extent and freedom of our remarks in this chapter, must be justified by the fact that, although vaccination has become the subject of legal enactment, there is yet a considerable amount of prejudice against it; and by our firm conviction, already expressed, that Jenner's great discovery, if universally and consistently carried out, would, in a comparatively short space of time, banish the small-pox from all civilized countries. Every case of prejudice overcome, must bring us nearer to that grand result.

Since this chapter was written, the author has consulted a valuable work, entitled *On the Existing State of our Knowledge of Vaccination and Re-Vaccination, as Preventive of Small-Pox,* by Alexander Knox, M.D. The practical conclusions at which the writer has arrived are confirmatory of the views which we have ourselves adopted. It is shewn that vaccination confers a power of resistance to the contagion of casual small-pox. The evidences in support of it are: the original statement of Jenner, that six thousand vaccinated persons were exposed in every way to small-pox, but did not take it; the history of small-pox in Denmark, where the disease was excluded by vaccination; the observations of Kennis in Ceylon; and of Wendt in Copenhagen. It is therefore concluded that, without further evidence, it is incontestable that "the immunity from casual small-pox is infinitely greater among the vaccinated than the unvaccinated portion of the community." Vaccinated persons are to a great extent unsusceptible of effect from re-vaccination. This argument assumes that, if the system be susceptible of cow-pox, it will be susceptible of small-pox, and the reverse. Dr. Knox concludes that one-half of vaccinated persons are at all subsequent periods incapable of having the disease re-communicated, and therefore, it is presumed, are protected against small-pox also. Dr. Knox then discusses the causes of failure of vaccination, as it is necessary to admit that many persons (perhaps one-half), after primary, are susceptible at some after date of secondary vaccination. The causes of failure are, imperfect performance of the first vaccination; the employment of unsuitable virus, and imperfect action of a suitable virus in a peculiar condition of system; and, finally, exhaustion of the influence by time. The only true means of carrying out the preventative measures against small-pox, will be the *universal adoption and more careful performance of vaccination and re-vaccination.* Dr. Knox states that the exact period at which re-vaccination should be performed cannot be determined; that it varies in different persons, and must be settled according to circumstances, such as the imminence of contagion, or the wishes of friends. Dr. Knox finally sums up his argument with the statement, that "the efficient and general practice of vaccination, aided by re-vaccination under suitable circumstances, will be found an efficient safeguard against the ravages of small-pox, in all constitutions not absolutely beyond the influence of any protecting agent whatever."

Any reader wishing to pursue the subject of vaccination still further, may consult with advantage Mr. Roberton's *Answers to the Objections commonly brought against Vaccination;* and especially *Papers relating to the History and Practice of Vaccination,* issued by the General Board of Health, in 1857. The Letter in that volume by the Medical Officer of the Board, Mr. Simon, is the most masterly, complete, and conclusive investigation of the subject ever written.

DENTITION.

THE rule to be inculcated with regard to *all* the diseases to which infancy is exposed—" that our best way is to prepare the constitution to resist their attacks"—is especially applicable to the process of dentition. This must be done by strict attention to "diet," "fresh air," "exercise," "cleanliness," and all the other points relative to the health of infancy on which we have insisted.

Let this care be bestowed upon the general health, and the natural process of dentition would be attended with less danger to the child, less disquietude to the mother.

It is an old mistake to regard dentition as almost the sole cause of all infantile diseases. The well-informed medical practitioner of the present day has learned to discriminate between those forms of disease which are really *consequent* upon the development of the first set of teeth, and others which have no natural connection with the process. This distinction is practically very important; for it is evident that if a disease, having a separate cause, and demanding a peculiar and vigorous treatment, should be falsely regarded merely as an effect of the irritation produced by the teeth, valuable time would be lost, and the child might seriously suffer.

To guard against such an error, our best way will be to give (I.) a plain description of the effects which may ordinarily and distinctly be attributed to dentition, with some notice of other diseases which may incidentally appear during the time of dentition; and (II.) Some general rules for the management of this period of infancy.

I. The instances are rare in which children have been born with teeth. Still more uncommon are the cases in which the teeth have never appeared. Usually, the first tooth appears about the seventh or eighth month; but sometimes as early as the third or fourth month. The process of developing the whole of the first set of teeth is commonly completed during the first year or year and a half, but it may be protracted beyond the second year. The first set—or the "milk teeth" as they are called—generally come in pairs; and those of the lower jaw commonly appear before the corresponding teeth of the upper jaw. First appear the two *central* teeth; then the *lateral incisors;* then the most *anterior molar,* or double teeth; and next the *canine,* or eye-teeth, but in some instances, these make their appearance before the molar. The last teeth protruded are the *posterior molar,* which commonly appear at a period varying from the twentieth to the thirtieth month.

The growth of the crown of the tooth through the gum, and of the root below, is accompanied with pain, irritation of the system, and determination of blood to the gums. As a relief, saliva flows in considerable quantity, and should be regarded as a natural and favourable symptom. Other symptoms are—the gums hard, hot, and swollen; increased heat about the head; thirst shewn by frequent desire for the breast; putting the hand to the mouth; fretfulness; starting in sleep; and sometimes sickness and slight diarrhœa. The crying of the child at this time is peculiar, and will be easily recognised by mothers. It should be noticed that children at this time will often shew a craving for more than the ordinary allowance of food, and will take it whenever it is offered. To appease this craving, and hush unpleasant cries, mothers will too frequently give food, far more frequently and in larger quantity than is usually required, until the stomach is oppressed, and the child lies dull and stupified, moaning and starting at intervals, until sickness comes on and the contents of the stomach are rejected. The practice of giving excessive quantities of food in these circumstances must be strongly condemned; for it is nothing less than adding the symptoms of indigestion to those of dentition.

All the symptoms we have noticed may be greatly modified by the age of the child and the number of the teeth simultaneously developed. The younger the infant the more susceptible will be the nervous system. The presence of any severe disease, such as hooping-cough, measles, or scarlet fever, during dentition, makes the case more complicated and hazardous. Any disease to which a predisposition has been manifested must now be carefully watched and treated; for though, as we have stated, dentition is not the cause of all the maladies which have been ascribed to it, yet the irritability of the system during the process will afford a vantage-ground for the attack of any contemporaneous disorder.

The most serious of all the symptoms accompanying "teething" are those which indicate a sympathetic affection of the brain and the nervous system; such as sleepiness or disturbed sleep, sudden starting and screaming during sleep, grinding of the teeth, tremor of the lips, or twitchings of the face, eyes, or arms, or general convulsions. Sometimes the respiratory organs are affected, either by a dry, irritating cough (known by nurses as a "tooth-cough"), or by a more serious disorder, spasm of the *glottis;* this requires prompt medical treatment. Diseases of the skin sometimes appear; one species so often as to have acquired the common name of "tooth rash." Enlargement of the glands about the face or in the neck sometimes requires notice. Disorder of the stomach and bowels is often shewn by sickness, purging, acidity, flatulence, and colic, with green and slimy evacuations. But, however troublesome, a relaxed state of the bowels must not be suddenly suppressed; when it threatens to become too severe, medical aid must be called in. As we have said, the "dribbling" which often accompanies dentition is a favourable circumstance; for it is generally noticed that local irritation and sympathetic affections are both least troublesome in those cases where there is a copious discharge of saliva. The discomfort attending it may, in a great measure, be prevented by putting on the child a "bib," the under surface of which is lined with oiled silk, so as to guard the body linen from dampness.

We may briefly notice here the common belief that the development of the canine, or eye-teeth, is attended with more than the usual pain and danger. There does not appear to be any anatomical reason for this; but we may explain, partly, the cases which seem to confirm the notion, by a reference to the opinion of Dr. John Clarke*—that as the canine teeth appear late in the period of dentition, the increased inflammation attending their growth may often be justly referred to irregularities of diet, especially the improper indulgence in animal food.

---

* "Commentaries on some of the most important Diseases of Children."

II. Having thus noticed the usual symptoms of dentition, as distinct from those of other diseases which may occur during the process, we may add a few simple rules regarding the domestic management of the infant at this period.

1. It is obvious that all the general rules of health which have been given respecting diet, air, rest, and exercise, must be especially observed during dentition.

2. The child should be kept cool and calm, and should be much in the open air in *favourable weather*, but at other times should be carefully guarded from cold. When the weather is severe, exercise should be enjoyed in a spacious nursery. The bedroom should be well ventilated; no curtains should be allowed around the cot; and the bedclothes should be as light as is consistent with a moderate and proper degree of warmth.

3. The head, especially, should be kept cool and elevated on a *firm* pillow during sleep. A very injurious determination of blood to the head is too often produced by such bad practices as keeping the child's head enveloped in warm caps, allowing him to sleep on soft, yielding pillows, so as almost to cover the face, and with curtains drawn so as to exclude the requisite supply of pure air. Sponging the head daily with cold or tepid water is a good practice when care is taken to prevent cold. As we have carefully and so often repeated, *fresh air*, so important at all times, is especially so during the irritation of dentition. It is the *best, because the most natural sedative.* The mortality of infants during this period is much larger in crowded towns than in rural districts.

4. The diet should be light, or easily digestible, and unstimulating; especially all kinds of *animal food* should

be avoided at this time. For further directions on this point we may refer to the chapter on Diet, only adding, that it is the child whose system is clogged and oppressed by *false diet* for whose safety we have the greatest reason to fear during the development of the teeth.

5. When dentition commences previously to the weaning of a child, the diet of the mother, or nurse, should be of a light and cool character, and she should avoid all causes of excitement or disturbance of her own system, as the infant may be seriously affected by the quality of the nutriment given from the breast.

6. Opiates should not be given during dentition, not even "syrup of poppies" to appease a cough.

7. With regard to the treatment of eruptions about the face, the scalp, or behind the ears, mothers must be cautioned against the use of healing applications without medical advice. The proper means to be used are,—bathing the parts affected with warm water, or milk and water, simple diet, and mild laxatives. When direct healing applications are used, under medical advice, they must be accompanied with a course of alteratives. This remark equally applies to the cure of *ophthalmia,* which sometimes occurs during dentition.

8. The flow of saliva, and a slightly relaxed state of the bowels, may be regarded as the two safety valves during dentition. Care should be taken, therefore, that both are not closed. If the flow of saliva is interrupted, we must pay attention to the state of the bowels, and where constipation is found, it must be treated by the use of such laxatives as castor oil, rhubarb and magnesia, or senna tea. If obstinate, a dose of jalap and chloride of mercury may be given every third or fourth morning.

9. The *tepid bath* may be used with advantage before and during the irritation of dentition. Gentle and often repeated friction over the surface of the body may also be found useful.

10. *Friction of the gums* is evidently dictated by nature, and is useful when employed at the proper time. In the earliest stage, or during the "breeding of the teeth," as it is termed, the tenderness of the gums is often such as not to bear the slightest pressure; but afterwards, when the margin of the gum becomes rounded and white, and the base only appears inflamed, pressure will afford relief. Gentle friction by the finger, after being dipped in cold water, is soothing; or, in cases where the flow of saliva is deficient, rubbing the gums gently with honey may serve to increase the secretion, and so give considerable relief. Coral, an ivory ring, a wax taper, a smooth crust of bread, or a stick of liquorice-root, may be used. Some nurses attribute a particular virtue to a ring of *gold;* but it really possesses no advantage over other hard and smooth substances.

11. With regard to the later period of dentition—if animal food has been given to a child, it must be rigidly withheld when any inflammatory or convulsive symptoms make their appearance. Frequently we have found, during the development of the *canine teeth* and the *posterior molars,* a strict regulation of diet, and abstinence from animal food, alone sufficient to avert all threatening symptoms.

12. On the completion of the process of dentition, if the general strength of the child has been somewhat reduced, a slight improvement of diet, such as the use of a little weak beef-tea or chicken-broth, may be given with safety and advantage.

13. *Scarifying the gums.* In cases where the irritation of the gums is very severe, and especially where any symptoms appear indicative of sympathetic disorder of the brain and nervous system, or spasmodic affection of the respiratory organs, there must be no delay in obtaining medical help. In such cases it is generally a safe and good course to scarify the gums. There is too frequently found an injurious prejudice against this simple and useful operation, which really produces but little pain, often and instantaneously removes acute pain, and prevents further suffering. Many have erroneously supposed that lancing the gum should be speedily followed by the appearance of the tooth; and that when this is not the case, the wound in the gum will heal, leaving a scar which will obstruct the growth of the tooth. These errors must be corrected. In the first place, we occasionally scarify the gum when the tooth is seated deeply, for the purpose of relieving tension and irritation, rather than to expedite the protrusion of the tooth. In the second place, it is not true that when the gum heals, after being lanced, the scar will impede the progress of the tooth; for newly cicatrized flesh is easily absorbed. So much relief has been afforded by this simple operation, that we are often called upon to repeat it during the progress of successive teeth. We have insisted on this point simply for the benefit of the young mother, who may entertain groundless fears when we speak of "using the lancet." In many cases the operation is quite indispensable; for without it other remedies would be unavailing.

To describe the mode of lancing the gums may be unnecessary for readers in this country, where medical aid is everywhere near; but for missionaries and other persons similarly situated, it may be useful. When the object is merely to draw blood (so as to afford relief in the first stage of irritation, or before the tooth has advanced near to the surface), the gum may be lanced freely *along the surface, but not deeply.* But when our object is to open the gum and afford passage to the tooth, the incision must be made firmly and freely through the gum, until the lancet is felt to grate upon the tooth. In the case of one of the front teeth, the lancet should be passed down in front and behind the edge of the tooth. For a double tooth two incisions should be made over its surface, crossing each other; the instrument being made to grate upon the tooth in each incision. The child's head should be held firmly by an assistant, while the operator stands before or behind (according as the tooth may be in the under or upper jaw), and with the forefinger of his left hand keeps the tongue and cheeks out of the way. The gum-lancet should be perfectly sharp and clean, otherwise the gums might ulcerate after lancing.

The second, or permanent set of teeth, which usually begin to make their appearance about the seventh year, will require attention rather with regard to their regularity of growth, than on account of the child's health. Generally their development is attended with but little pain, though, occasionally, the use of the gum-lancet is required. At first, the incisors or central teeth are found loose, or supported principally by the gums, as the roots have undergone more or less absorption. When they remain firm, while the permanent incisors begin to protrude before or behind them, the case should be submitted to the notice of a dentist, who will, at the proper time, extract the first incisors, in order to make way for the growth of the permanent teeth.

The permanent teeth are larger and more numerous than the temporary. The last pair, commonly called the "wisdom teeth," generally make their appearance after the twentieth year, and complete the set of the thirty-two teeth. During the development of this second set, a little attention to their regularity of growth, and the occasional interference of a dentist, may prevent disfigurement of the mouth, and other inconvenience.

Children should be early taught to brush their teeth daily, using a soft brush with water. This practice, combined with attention to the healthy performance of the digestive functions, will tend to preserve the teeth.

EDUCATION.

If the mind and the body were disconnected, or could act in this world independently of each other, the advice of the physician would not be required on the topic of education. But as it is admitted beyond all dispute, that the intellectual is most closely united with the physical part of our nature, and that one is continually acting upon the other, the physician cannot leave the whole topic of education, especially *early training,* in the hands of the schoolmaster, but must interfere here, at least, so far as to insist on an observance of the rule—*that the cultivation of the mental powers shall be carried on in a mode consistent with physical health.* He must also endeavour to explain and enforce the doctrine, that without due attention to physical health, we shall, in all probability, fail in our attempts to develope a sound and well cultivated intellect.

Although much has been written on the subject, there is yet a lamentable amount of ignorance of the connexion between the mind and the body; and owing to the mystery in which the science of the mind has been involved, there is much thoughtlessness on the part of parents regarding the injury they may do their children by *too early* cultivating their minds.

The word education is too often employed in a *false* sense, when it is applied to a system of task-work by which the memory is burdened, while the development of the other faculties is neglected. In the *true* sense of the word, it implies a system by which we may train the various faculties of body and mind in the best possible unity and order, or so that one shall not act to the injury of another.

This is not the place for any metaphysical disquisition on the mind considered abstractedly; it is sufficient for our purpose to state, that, in its operations, *it acts in conjunction with the bodily functions, and exerts also a very powerful influence upon them.* Proof of this assertion is not required by any reader who has ever reflected on the subject; but as it is highly important to notice the effects of the mind on the body, some familiar examples may be given here:—

Who does not know the effects of anxiety or intense thought on the digestive powers? Let an individual sit down to dine with his accustomed appetite, but just as he begins eating, let a note or message be delivered suggesting some topic requiring anxious thought. If the mind now allows itself to be occupied with this topic, it is probable, either that the dinner will be left untouched, or, if eaten, that it will be imperfectly digested. The fact is, that the energy required for the process of *digestion* has been called away, and is now devoted to the process of *thinking.* Another familiar example:—You are taking a walk, and (supposing you to be a mathematician) some intricate problem suggests itself to your mind, and you endeavour by mental calculation to find a solution. For some time, perhaps, you proceed walking and thinking simultaneously, but if the mind becomes intensely engaged, and the calculation proves difficult, it is probable that you will first unconsciously diminish your pace, and ultimately, seek to rest the body, that the mind may be more assisted. Here the process of thinking has suspended your physical activity.

Or notice two friends walking together and lightly conversing on various topics; so long as their conversation is light and cheerful, they will walk in their accustomed pace; but let some topic of serious interest be mentioned, and as they become deeply engaged in it, it is most likely that (without knowing anything of the reason for doing so) they will both cease from walking, and stand still to converse more thoughtfully upon it. Many more familiar instances might be given to illustrate the common law, that *intellectual efforts cannot be made without having some effect on the physical powers.* And if this rule is true, as it undoubtedly is, with regard to the constitution of the adult, it is obvious that it must apply still more strongly to the condition in which the physical powers are found during infancy and childhood. For in this period of life we must observe that there is a constant demand upon the system for the purpose of growth. In the adult, when this demand ceases, more energy may, of course, be directed to the functions of the brain, and, accordingly, we generally find the most marked improvement in the vigour and tone of the mind takes place when the body has arrived at its full stature.

We cannot, perhaps, more aptly illustrate the relationship of the mind with the body than by a simple analogy taken from the vegetable world. We would say, then, that the mind is related to the physical system *as the flower to the stem and leaves of a plant.* How different is the flower, marked by bright and various colours, from the modest stem and the leaves of dusky green; and yet, observe, if you would have your *geranium* or *dahlia* bright and beautiful, you must take due care that the stem and the leaves have first a healthy development. The vigour which has to be *expended* in the production of the flower must first be collected in the stem and the leaves. Warmth and light may be regarded as the *stimulants* required for the expansion of the flower; but sustenance for the plant—earth, air, and moisture—is first demanded, that it may gather strength to produce flowers. Now we should regard a florist as very ignorant, if he attempted by stimulus at once to produce a good flower without first caring for the general health of the plant; yet this is precisely what is done by some ill-qualified parents and teachers, who overtask the brain, while they neglect the general bodily health of their children. The fact is, we must bestow care and patience on the development of the stem and the leaves of the young plant, if we would see the flower in due time. It is a result which cannot be forced, but must be arrived at by the proper course pointed out by Nature.

A paper which appeared in a popular journal* some time ago, coincides so exactly with our own views on this point, and illustrates the case so clearly, that we may quote a few paragraphs from it. The writer says:—

> "During a visit to a friend in the country, I was enjoying a walk in his garden before breakfast on a delightful morning in June, when my attention was suddenly arrested by the pensive attitude of a little boy, the son of my host, whom I observed standing before a rose-bush, which he appeared to contemplate with much dissatisfaction. I inquired what had attracted him to this particular rose-bush, which presented but a forlorn appearance when compared with its more blooming companions. He replied, 'This rose-bush is my *own;* papa gave it to me in spring, and promised that no one else should touch it. I have taken great pains with it, and, as it was covered with beautiful roses last summer, I hoped to have many fine bouquets from it; but all my care and watching have been useless; I see I shall not have one full-blown rose after all.'

---

* CHAMBERS' "Edinburgh Journal".

"'And yet,' said I, 'it appears to be as healthy as any other bush in the garden: tell me what you have done for it, as you say it has cost you so much pains.'

"'After watching it for some time,' he replied, 'I discovered a very great number of small buds, but they were almost concealed by the leaves, which grew so thickly: I therefore cleared away the greater part of these, and my little buds then looked very well. I now found, as I watched them, that though they grew larger every day, the green outside continued so hard, that I thought it impossible for the delicate rose-leaves to force their way out; I therefore picked them open, but the pale shrivelled blossoms which I found within never improved, but died one after another. Yesterday morning I discovered one bud, which the leaves had till then hidden from me, and which was actually streaked with the beautiful red of the flower confined in it; I carefully opened and loosened it, in the hope that the warm sun would help it to blow: my first thought this morning was of the pleasure I should have in gathering my *one* precious bud for mamma—but look at it now!'

"The withered, discoloured petals, to which the child thus directed my eye, did indeed present but a melancholy appearance; and I now understood the cause of the looks of disappointment which had at first attracted my attention. I explained to the zealous little gardener the mischief which he had unintentionally done by removing the leaves and calix with which Nature had covered and enclosed the flower until all its beauties should be ready for full development; and, having pointed out to him some buds which had escaped his *care*, I left him full of hope that, by waiting patiently for Nature to accomplish her own work, he might yet have a bouquet of his own roses to present to his mother.

"As I pursued my walk, it occurred to me that this childish incident suggested an answer to the question asked by Dr. Johnson, 'What becomes of all the clever children?' Too often, it is to be feared, are the precious human buds sacrificed to the same mistaken zeal that led to the destruction of the roses which had been expected with so much pleasure by their little owner. Perhaps a few hints, suggested not by fanciful theory, but by practical experience in the mental training of children, may help to rescue some little ones from the blighting influences to which they are too often exposed.

"The laws by which the physical development of every infant, during the earliest period of its existence, is regulated, seem to form a striking instance by the analogy they bear to those laws on which the subsequent mental development depends; and by the wise arrangement of an ever kind providence, this lesson is made immediately to precede the period during which it should be carried into practice. On the babe's first entrance into the world, it must be fed only with food suitable to its delicate organs of digestion; on this depends its healthful growth, and likewise the gradual strengthening of those organs. Its senses must at first be acted upon very gently: too strong a light, or too loud a noise, may impair its sight or hearing for life.

"The little limbs of a young infant must not be allowed to support the body before they have acquired firmness sufficient for that task, otherwise they will become deformed, and the whole system weakened; and last, not least, fresh and pure air must be constantly inhaled by the lungs, in order that they may supply vigour to the whole frame. All enlightened parents are acquainted with these laws of Nature, and generally act on them; but when, owing to judicious management, their children emerge from babyhood in full enjoyment of all the animal organs, and with muscles and sinews growing firmer every day, in consequence of the exercise which their little owners delight in giving, *is the same judicious management extended to the* MIND, of which the body, which has been so carefully nourished, is only the outer case? In too many cases it is not. Too often the tender mind is loaded with information which it has no power of assimilating, and which, consequently, cannot nourish it. The mental faculties, instead of being gradually exercised, are overwhelmed; parents who would check with displeasure the efforts of a nurse who should attempt to make their infant *walk* at too early a period, are ready eagerly to embrace any system of so-called education which offers to do *the same violence* to the intellect; forgetting that distortion of mind is at least as much to be dreaded as that of body, while the motives held out to encourage the little victims are not calculated to produce a moral atmosphere conducive either to good or great mental attainments."

We would state, as a general rule, that bodily health is essential to a sound mental progress; and, as another rule, that a well regulated education is necessary for the preservation of health. How, then, shall early education be regulated? Here we are in no difficulty to find an answer; for the principles already laid down for our guidance with respect to the *diet* and general regimen of childhood, will also guide us with regard to our treatment of the child's mental constitution. The analogy between the following simple rules and those already given with respect to the *physical* management of childhood will at once be observed.

1. The process of early education must be so regulated as not to disturb *digestion.* In other words, we must never attempt to develope the brain at the cost of the stomach. Such a degree of intellectual excitement or effort during childhood as would interfere with the appetite and weaken the digestive powers must be highly injurious. Severe studies ought never to be imposed upon children immediately after their meals.

2. A full share of time for *sleep* must be allowed. This point is noticed in another section, but must again be especially noted in connexion with the mental exercises of childhood. In this period of life, the brain demands a full allowance of that perfect rest which natural sleep alone can supply, in order that it may be prepared to fulfil well its functions during waking hours.

3. Early education must be so regulated as to be made compatible with a full share of that physical activity which is and ought to be the very characteristic of childhood. It may be a discouraging symptom, when a child loves his sports so well that he turns away in dislike from instruction, even when offered in the most inviting forms; but we must also regard it as a sign of no good promise for the growth of a healthy constitution, when a child "loves his books so well that he cares little or nothing for play." In fact, physical activity is the very law of health, especially in early life. This alone can insure healthy digestion, free circulation,

respiration, and, in short, a normal exercise of all those functions of the body upon which the health of the mind ultimately depends. Even if we allowed the mind to rest, we could not confine the physical activity of childhood without considerable injury; but how much more injurious must such confinement be made, when it is accompanied by almost constant work imposed on the intellect! For proof of the truth and importance of this remark, we might refer, if space allowed, to the pitiable cases of many "precocious children" and "infant prodigies", in whom we have generally found a premature mental growth associated with a hopelessly feeble state of the physical system. The mode by which this deplorable condition is produced may be easily explained.

In our present state of existence, the mind must act by the aid of corporeal organs. The brain is the organ of the mind, and during childhood is, like the other parts of the system, delicate and incomplete in its powers. It is most perfect and vigorous during manhood, and gradually declines in power as old age advances.

Every mental exertion is a function of the brain, and must be made by some expenditure of the power of that organ. It is therefore perfectly correct to speak of early education with a reference to the state of the brain in childhood, exactly as we have spoken of diet with a reference to the powers of the infant stomach. As we have already shewn,* improper food cannot be given during infancy with impunity; but must produce serious disease if the error is long practised. The error is quite as great when we persist in administering what we may term by analogy a *meat* diet to the infant mind, while nothing stronger than *milk* is suitable.

---

* See the chapter on Diet, p. 15; and the writer's "Practical Observations on the Diet of Infancy and Childhood".

Immoderate mental activity during childhood must be accompanied with an unhealthy stimulation of the brain, and tends to produce inflammation of that organ, and a secretion of water within its cavities. The *rationale* of this is obvious. In the first place, mental exertion increases the flow of blood towards the brain, and quickens its circulation. If the exertion is carried on too long, the mind (or, to speak more correctly, the brain) becomes fatigued; and, if the effort be still further maintained, exhaustion is the result. In the adult, this is a frequently recurring case; but, as the adult brain is far less excitable than that of the child, the fatigue and exhaustion may be borne with comparative impunity. The case of children is very different. In them, the same degree of excitation which might be very well borne by the adult, might be sufficient to produce active inflammation.

This, indeed, would be an extreme case; but it serves to illustrate the intermediate degrees of injury to the brain which more frequently takes place during childhood. In these cases, by frequent and immoderate mental task-work, a slight degree of inflammatory excitement is produced, which, slowly but surely, injures the organ of thought, tending in the first place to stimulate, and afterwards to exhaust and paralyse the intellectual faculties. Of such instances, Dr. Darwall writes thus pointedly:—"The progress of such a case is this—the child, from having been quick and active, becomes *rather* less so, but in no very marked degree, and his vivacity and mental acuteness go on decreasing until it terminates somtimes in idiotcy, or, in the most favourable cases, it is a change from considerable brilliancy of intellect to dulness and stupidity. Thus may the too anxious haste in rendering a child learned destroy its own object."*

---

* "Plain Instructions for the Management of Infants. By J. DARWALL, M.D. 1830.

Although mental excitement may not often produce insanity during childhood, it is considered by many writers that it may predispose a person to this disease, by giving an early predominance to the nervous system.

Of course, it is not the mind alone which must suffer from such a process of immoderate stimulation and consequent exhaustion, but the body also must be predisposed to diseases of a more or less acute kind; some of them speedily destroying their victims, others rendering them feeble and invalid for life. Convulsions, epilepsy, and palsy, are among the consequences of the exhaustion of the nervous system by immoderate mental stimulation in early education; or, to say the least, such a debility of the entire physical constitution may be induced, as will be ready at once to yield to the attack of any special disease. *The brain is the material organ by which all the mental faculties are manifested; it is exceedingly delicate, and but partially developed in childhood; over excitement of it, when in this state, is extremely hazardous.*[*]

General observation of the processes of Nature, and the facts of biography, may sufficiently convince us that precocity is not desirable. We may remember Pope, who wrote elegant verses in his boyhood, but was throughout his life a feeble valetudinarian; and Kirke White, who attained almost to his full stature as a poet in his teens, and died exhausted in early manhood. The old writer Evelyn gives a marvellous account of the knowledge of Greek, Latin, and other languages possessed by a child; but he also tells us that that child never lived to be a man. We might multiply striking instances on this side of the question; while, on the other side, for proofs that slow growth is good for the mind (as we find it generally good in the physical world), we might point to such instances as Adam Clarke, the learned commentator, who was only noticed as a boy for robust health; Hunter, the anatomist; and William Cobbett, the political writer, who, whatever we may think of his peculiar taste and opinions, was undoubtedly a man of vigorous intellect. Shakespeare, Molière, Gibbon, Byron, Franklin, Gifford, and Davy, have also been mentioned as cases in point. Harriet Martineau, in her remarks on the genius of Sir Walter Scott, speaking of his early education, says: "Here is a boy lying about in the fields when he should have been at his Latin grammar; reading novels when he should have been entering college; spearing salmon instead of embellishing a peroration. Yet this personage came out of this wild kind of discipline, graced with the rarest combination of qualifications for enjoying existence, achieving fame, and blessing society. Deeply learned, though neither the languages nor the philosophy of the schools made part of his acquisition; robust as a ploughman; able to walk like a pedlar; industrious as a handicraftsman; intrepid as the bravest hero of his own immortal works. Here is enough to put us on inquiring, not whether learning and even school discipline be good things, but whether the knowledge usually thought most essential, the school discipline, which is commonly deemed indispensable, be in fact either the one or the other."

---

[*] The reader may refer with advantage to an admirable little work by an American physician, Dr. BRIGHAM, with notes by ROBT. MACNISH, "Remarks on the Influence of Mental Cultivation and Mental Excitement upon Health"; also an excellent chapter on intellectual training, in "The Mother's Practical Guide in the Physical, Intellectual, and Moral Training of her Children". By Mrs. J. BAKEWELL.

The late Sir Thomas Fowell Buxton may also be included in this category. See the excellent Lecture, entitled "Sir Thomas Fowell Buxton: a Study for Young Men", by the Rev. Thomas Binney.

The error of early education, against which we have directed the preceding observations, may be briefly described as the *forcing* system, or the application of over-strong stimulants to the brain during childhood, in order to develope its powers prematurely, and at the cost of physical health. As closely connected with this most injurious method, we may regard the *cramming* system. We can hardly find a term more suitable than this (as used in the universities) to describe that system by which the juvenile memory is burdened and oppressed with a load of mere *words*, instead of being employed naturally, easily, and pleasantly, in storing up facts derived from the impressions of the senses. The object aimed at by those who adopt this cramming system, is to fill the youthful memory with the greatest possible amount of *word-knowledge*, in grammar, geography, history, and other branches of education. Of these "branches" we will say a few words distinctly.

1. *Language and Grammar.* It is, we believe, in opposition to Nature and reason to oppress the memory with the rules of "orthography, etymology, syntax, and prosody", during early childhood. The fact is, a child, if kept in good society, and occasionally corrected when he used a word wrongly, will naturally and easily learn to speak properly. Afterwards, when the reasoning powers are developed, he will be able to learn more of grammar in an hour, than during all the days (or we might say *months*) consumed in learning to "say the rules" in a parrot-like fashion, before the mind was sufficiently developed to comprehend their meaning.

2. *History.* It is evident that *outlines* of our national and general history, prepared in a suitable style, may be presented to the mind and studied with interest at a rather early age. Moderation here must be our rule. There can,

however, be no utility in burdening the child's memory with all the dates and other particulars of various dynasties, courts, parliaments, and political intrigues, etc., etc.—matters which he will never study with any advantage until he is old enough to find interest in them. Most unsuitable things are often presented to the mind of childhood under the name of *history*.

3. It is obvious that our general remark on *history* will also as fairly apply to *geography*. The outlines of this science, charmingly illustrated as they may be by maps, pictures of cities, landscapes, and the animals found in various latitudes, will be received with pleasure by the young mind; but we must reprehend the burdensome method of stereotyping on a child's memory the names of all the mountains, rivers, islands, peninsulas, bays, creeks, and promontories, and then giving to this dry catalogue of foreign words the title of "geography", as a branch of early education.

4. *Writing.* As this art is in a great measure imitative and mechanical, it may, to a certain extent, be acquired with pleasure during early life. The evil to be avoided is a too long continuance of the posture of body generally assumed while writing, as it is unfavourable for free respiration.

5. *Arithmetic.* Moderation here is our only rule. There is nothing more certain than that, if a child possess a strong mathematical genius, it will be sure to develope itself in due time; but we shall not aid it by endeavouring to make the child a marvellous calculating machine, and forcing his attention through long and difficult processes of arithmetic, the meaning and utility of which he cannot comprehend.

6. *Music.* No branch of early education is so much abused as this. It may be made one of the most healthful

and delightful parts of early training; whilst it is often perverted so as to become the most cruel, absurd, and oppressive. Respecting the good tendencies of vocal music, we may quote here the opinions of a lecturer and writer on the topic:—

"To speak of the advantages of a musical training is now unnecessary. It is generally admitted to be most desirable that a knowledge of music should be spread among the people, if only as an addition to our resources of harmless recreation. As a private amusement, it is valuable; though in the present day we think many are too well contented with the domestic pianoforte, neglecting the higher forms of concerted music, from which the greatest and most lasting pleasure may be derived.

"As healthful exercise, especially for the young, vocal music may be strongly recommended. A neglect of the vocal powers seems to be one of the consequences of our present style of civilisation. The child will shout, if you will not teach him to sing; the savage exerts his voice in the war-whoop, or in rude songs; but the civilised man leaves the exercise of the voice to certain professions—to the preacher, the actor, the public singer—and is contented with any ordinary speech, which is often little better than muttering. As an occasional counteraction against the sedentary modes of study in our schools, the practice of vocal music is very desirable; and we would hope that the day is not far distant, when the examination of a public school will not be regarded as complete without a respectable vocal concert. Nothing can so well relieve the common routine of studies as the occasional practice of music. To all who superintend the education of young ladies, we would respectfully offer one suggestion. There can be no doubt that the practice of part-singing would be far more healthy, in both a mental and a physical sense, than the exclusive and often excessive sedentary practice required to make an accomplished pianoforte player of the modern school. Vocal music, even when regarded solely as a part of physical training, is worthy of far more attention than it now receives."*

With the purpose of this quotation we fully accord.

---

* Lectures on Choral Music. By J. Gostick. No. 1.

Vocal music, even regarded merely as a good exercise of the respiratory organs, is a delightful and wholesome branch of early education, and *ought to be universally cultivated.* Even the rude nursery rhymes sung by maids and nurses have a good effect on the infant, when they prompt him to exert his vocal organs in imitation. At present, singing is taking its due place as an important part of the education given in our infant schools, and we will go so far as to say, that we cannot regard any master or mistress wholly unacquainted with music, as fully qualified to superintend an infant school. Morally considered, we cannot easily overrate the good effect of the cheerful emotions and sensations of order and harmony excited by numerous young voices singing heartily in concert together. To part-singing, therefore, and to vocal music generally, let all due honour be paid. But, unfortunately, the "accomplishment" of music, as commonly cultivated in our boarding-schools, implies something widely different from the healthful exercise of part-singing. It involves such an amount of sedentary and mechanical practice on the pianoforte, that the time so consumed must be taken either from other necessary studies, or from the hours which ought to be devoted to physical exercise.

It should be remembered by parents, that mechanical execution on this favourite instrument, the pianoforte, has been carried to such a degree in our day, that if they are determined to make their daughters really first-rate performers, they must consent to allow an enormous proportion of the time required for general education, to be devoted to this one fashionable accomplishment; and, even then, unless the pupil is favoured with extraordinary talents in music, aided by great zeal and perseverance, it is not to be expected that she will rise above mediocrity. We do not object to pianoforte playing as a part of the education of young ladies, but should like to see it kept within the bounds of moderation. We would not have it considered necessary, nor even desirable, that every young lady should be able to go through all the difficulties of a *fantasia* by Thalberg; while in many cases, where there is no decided taste or talent for music, we think pianoforte practice unreasonable and useless. By perseverance, some degree of mechanical ability may be attained, even in such cases, but it is not real excellence, and cannot be regarded as worth the time and labour expended upon it. In cases where true musical talent exists, a moderate degree of skill, such as is necessary to accompany a simple song or ballad for the recreation of the domestic circle, may be easily attained, without involving a sacrifice of the time required for other pursuits. To conclude our remarks on music, as a branch of early education, we shall be very glad to see the day when vocal music, especially part-singing, will in a great measure supersede the present fashionable devotion to the pianoforte school of music, as it would be the substitution of a healthful and intellectual exercise for one which is sedentary and generally mechanical. It may be asked, if we would have the hours of study contracted, and the tasks imposed on the early memory so far decreased as we have intimated, how we should occupy the time of the young pupil? The answer is easy; for the time so spared might be devoted to that species of early education which is now so much neglected,—the easy and natural exercise of the faculties of observation and comparison, combined with the moral feelings, and especially exercised with regard to surrounding nature. Admiration of the wisdom and goodness of God may be excited at an early age, by calling attention to the more obvious adaptations of means to ends in the forms of plants and animals, the succession of the seasons, and many other common phenomena. A perception of beauty may be called into exercise by pointing to the colours of flowers, or even the forms of the common grasses and wild plants in our fields. In short, it must be impossible to take a walk with a child, and reply to his most natural and simple questions, without carrying on, in the most easy and delightful style, the process of education. This, one of the most effective and sure modes of teaching, is too much neglected, while we spend so many hours in burdening the young memory with dry and unintelligible task-work. As a general rule, we should state that *task-work* should not be commenced before the child is five or six years old.* Previously to this age, whatever is done in the way of education, should be done voluntarily and easily on the child's part; and his physical well-being should engage our attention rather than his intellectual progress. There will be no danger in allowing the latter to be *slow,* if it is only sound and connected with good health. In the case of active and excitable children, we should even put restraints upon *voluntary* attention; for in such subjects, even voluntary and cheerful mental occupation *may* be injurious, if the excitement attending it is allowed to go so far as to interfere with the appetite or the hours which ought to be devoted to sleep. Intellectual excitement in the evening, or near bed-time, should be avoided. But, with these obvious precautions, it is easy to see that a great amount of useful knowledge may be imparted at an early age, without any oppression of the memory or sacrifice of health. Habits of attention may be formed by pleasant oral intercourse, with pictorial illustrations, and familiar explanations of various objects. Those who have ever watched the progress of the infant mind, trained according to such a plan, will admire the degree of information which children may thus acquire, not in a compulsory and irksome style, but voluntarily and cheerfully; not with the loss of health and buoyant spirits, but as an aid to physical exercises; indeed, as a pleasant pastime and recreation.

---

* By some writers a still later period is fixed upon. Dr. Brigham says, seven or eight years; and Mr. Macnish agrees with him, in the following graphic note on this subject, which is worth transcribing. "Till a child attains this age, his education should be chiefly, if not entirely, physical and moral. Let him ramble about, and thus strengthen his frame; and let him be taught to abhor lying, thieving, tale-bearing, oppression, cruelty, gluttony, and every kind of vice. When the weather admits of it, children should be very much in the open air. Laughter, shouting, and innocent mirth should never be checked, but rather encouraged. They are the grand safety-valves for the superabundant exuberances of the young spirit; yet some parents have the incalculable folly to close those outlets of joy, and interdict as much as possible, every expression of vivacity in their children. The young creatures are prohibited from laughing and talking in their presence, obliged to sit stock-still like so many waxen images, and compelled to smother the glorious, and alas! too brief, impulses of childhood in the stagnation of silence."

Owing to the generally more delicate organisation and greater excitability of the female, her mind must not be tasked so early as that of the other sex; and it is especially desirable that all concerned in the education of young girls, should direct their attention to every possible means of promoting *their* physical health, particularly to all kinds of active exercise in the open air.

Home Education.—Infant Schools. It is obvious that the style of early training which we have described, can be most effectively carried out at home, when parents have leisure to devote themselves to the task, or can employ the services of a well-qualified teacher. *Infant schools* are admirably adapted to take charge of the children of the poor, especially in large towns, where parents are called away from their homes by their daily labour. But the ties of social intercourse, filial affection, and well regulated obedience, which should lay the foundation of the child's moral character, are best learned in the domestic circle, and this, therefore, should always be the chosen ground for early training when circumstances will allow it. The usefulness of an *infant school* greatly depends on the mind and temperament of the master. He should be able to rule by a gentle sway over the affections, as well as to instruct; and should have such a knowledge of the physical requisitions of childhood, as will enable him to treat his pupils with a regard to their bodily health, as well as their mental progress. Fresh air, a fair allowance of *cheerful* exercise (in a good play-ground in fine weather, or in a large well-ventilated room during rain), free use of the lungs in singing and shouting, variety of position and action, so as to afford full play to all muscles; these are essential points in the management of an infant school. As we have already said, a knowledge of music is highly desirable in the master; for nothing is better adapted than cheerful, hearty singing, to relieve the monotony of ordinary school routine.

In conclusion, we must protest against the disposition of some infant school teachers, to impart knowledge of too technical and scientific a character to their juvenile pupils, to the neglect of the common facts and truths, and that best of learning—*common sense.*

Boarding Schools.—The advantages of home education are, perhaps, more strikingly evident with reference to girls, than in the case of boys. If circumstances, however, make it necessary to send a daughter to a boarding-school, more than common care is required in our inquiries respecting the character of the school. It will be necessary to obtain information especially on the following important points:—That the pupils have a supply of as much plain wholesome food (including a good proportion of animal food) as they can eat; that the school is situated in a healthy locality, affording proper scope and convenience for recreation; that at least *one-third* of the day be devoted to recreations, such as walking, running, skipping, gardening, etc.; that the pupils retire regularly to rest at an early hour, and rise early, but so as to have a due allowance of sleep; that each pupil has a separate bed; that the bed-rooms are well ventilated, and that too many are not allowed to sleep in one chamber; that the mode of education pursued shall include a wise and careful training of the moral habits and affections, combined with attention to the due development of their physical powers; in short, every care must be taken that moral and physical health be not sacrificed to mere accomplishments.

Too often it is considered, that if a lady has a fair proficiency in the ordinary branches of polite education, she must be well qualified to train young females, while her qualifications to superintend their moral and physical training are almost totally left out of the account. To add force to our advice, we might here quote several instances of the most serious sacrifices of health to modern accomplishments, by young ladies passing through the routine of ill-regulated boarding schools; but it may be sufficient to observe, that the combination of qualities required in the governess of a boarding school,—sound education, accomplishments, moral influence, domestic management, fine temper, a considerable degree of physiological knowledge,* can very rarely be found, and, consequently, out of the very great number of "establishments for young ladies," we could select very few in which the style of education is in all respects satisfactory.

---

* A useful little volume, published by Van Voorst, entitled "Everyday

It must not be supposed from what we have written, that we are opposed to mental cultivation at the proper period: on the contrary, we have long since adopted the Latin motto "Vita sine literis mors est"; and all our observations in this chapter are solely directed to suppress an inordinate desire for imparting book knowledge during infancy and childhood. We would wish to stimulate all those who have passed their youth, and possess good health, to apply themselves with great vigour to mental labour and improvement. Facts abundantly prove that the cultivation of the mind at a proper time of life is not injurious, but beneficial to health. Literary men, says M. Brunaud, in his *Hygiène des gens de lettres*, have in all countries usually been long lived. The class of learned men who have lived more than seventy years, includes the most distinguished that have ever existed. Mental cultivation has given a predominance to the reasoning powers over the sensual, and has been eminently conducive to all the principles of temperance. Dr. Brigham justly remarks: "A taste for reading is one of the most desirable that we ever form; and could we believe with Montesquieu that 'reading is a never-failing remedy for all the ills of life;' or with our illustrious Jefferson, that 'but for books life would scarcely be worth having,' we should none of us neglect cultivating this taste, and urging others to do likewise."

The physician may be supposed to travel beyond his proper range, when he ventures to treat briefly of *moral training;*

Wonders, or Facts in Physiology which all should know", illustrated by woodcuts, should be in the hands of every teacher.

but the fact is, this topic is not so entirely unconnected with the *physical* management of childhood, as some persons would imagine it to be. A sound and quiet state of physical health is one of the greatest helps to a good moral development. A feeble and irritable condition of the bodily frame is likely to be associated with an excitable temper. With regard, therefore, even to the future moral character, we would add stress to the observations already made on the importance of general health. If you would have your moral lessons successful, take care that the digestion is good, the head clear, and the constitution free from irritability and feverish excitement. Regularity in plain diet, sleep, exercise, and moderate study, is a powerful, though indirect, aid in moral training. With regard to more *direct* means, we certainly would not have them neglected, even in very early life. The moral education of the child commences in early infancy, and is often, perhaps, decided for good or for evil before the stage of childhood is terminated. In moral qualities, the child is, indeed, "father to the man," and the training of these requires the most anxious attention even during infancy. All the passions and affections are designed for good, and our object must be not to obliterate them, but to guide them into a system of harmonious operation with each other. This must be done by sedulously cultivating all the affections, obviously good in their nature; and, next, by their influence regulating the violence of others, which, if freely indulged, would lead to evil. Thus *anger* should be restrained, not by another display of anger, but by steady exhibition of parental affection, and by shewing a practical example of calmness amid irritating circumstances. *Emulation,* which is too frequently used as the chief stimulus to mental effort, should be restrained within just and wholesome limits; and the love of approbation, while it should by no means be altogether suppressed, should be guarded, lest it grow into a dangerous ambition, or degenerate into vanity. Above all, and as the great corrective of all the passions, we should encourage in every way the development of the conscience or moral sense.

In connection with moral training, we may briefly advert to the plan of *corporeal punishment* as still adopted, we are sorry to say, in some schools. We have generally found that this very objectionable method of enforcing attention, method, and obedience, is most freely employed by those who are deficient in all the milder modes of maintaining authority; by masters, in fact, who have no firm moral power over their pupils, and who are, consequently, disposed to use the cane freely as a ready substitute for all the superior modes of correction. The tendency of this coarse style of correction is certainly degrading to the pupil, causing him to regard the school as a prison, the teacher as a despot, and the whole process of education as a very arbitrary and cruel affair. It is most desirable that this practice of corporeal punishment should be laid aside. Masters of schools who find that they can establish their authority by no better means, should, we think, be led to doubt their own fitness for their profession.

To conclude—the great rule which we have endeavoured to explain, with regard to early education, may now be stated in a few simple terms:—We hold, that *the general health of mind and body should be the main object of all who have the care of childhood,* and not any particular development of intellectual brightness. Let the body and the mind of the child be preserved in a natural and healthy condition, and we may be sure that the intellectual powers with which he is endowed will, in due time, develope themselves without any injurious excitement. But if, on the other hand, our main object is to produce an intellectual proficiency as early as possible, our haste is likely to frustrate our own design. As every part of the system depends upon the health of the whole, the mental precocity which is gained at the cost of the bodily health, will, in all probability, be short lived and useless. The motto of every parent with regard to the management of children should be—

"Mens sana in corpore sano."

INDEX.

Abdomen, clothing of the, 43
Acidity of milk, how corrected, 27
Activity, immoderate mental, during childhood, 100
——— physical, during early education, 98
Age, when "task-work" to be commenced, 108
Air, 49
Albuminous matter in milk, 23
Alcoholic stimulants, not to be given in childhood, 21
Amusements, 59
Anger, 103
Arithmetic, 104
Arrow-root, not to be depended upon in early infancy, 31
Artificial feeding, 22
——— food, which the best, 23
Asses' milk, composition of, 23
Austria, mortality among children in, 10
"Baby-jumper," advantages and disadvantages of the, 60
Bathing, 52
Baths, 53
—— hot, warm, tepid, and cold, 53
Bedford, mortality among children in, 9
Beds, materials for, 51
Bed-clothing, 49
Best imitation of the mother's milk, 24
Beverage of childhood, 21
Boarding schools, 110
Body-clothing, 49
Boiled flour food, how made, 32
Bouillie, or baked flour, how made, 31
Brain, overtasking the, 95
Bread, when first to be given in infancy, 31
Bullock's semola, 32
Cause of mortality of children, 11
————————— English women by consumption, 42
Change of garments, 44
Chess and draughts, 63
Chest, clothing of the, 43
Child premature, diet of, 18
Childhood, beverage of, 21
——— diet of, 33
Children's carriages, 59
Choice of suitable wet-nurse, 17
Cleanliness, 52, 82
——— in cooking, importance of, 33
Clothing, 37
——— of the head, chest, abdomen, and limbs, 43
Cocoa, for children, 35
Cold bath, 53
Cold, mortality from, 39
Coma infantile, an occasional effect of artificial feeding, 28
Condiments for children, 21
Consequences of undue mental stimulation, 101
————— overtasking the brain, 95
Constituents of milk, 23
———— asses' milk, 23
———— cow's milk, 24
———— goat's milk, 23
———— human milk, 23
Consumption among English women, causes of, 42
Corporeal punishment reprehensible, 114
Cow's milk, composition of, 23
Cream, 23
Crême de pain, how made, 32
Cricket, game of, 62
Curd of milk, 23
Cutaneous diseases from vaccination, 73
Dalby's carminative, injurious effects of, 29
Dentition, 82
Diet, the best artificial, 23

Diet of infancy, 15
——— nursing mother, 16
——— premature child, 18
Diet during childhood, 33
——— teething, 86
——— weaning, 19
Diet, summary of rules of, 35
Digestion, not to be disturbed by education, 98
Diocodium and peppermint, injurious effects of, 29
Disqualifications of a nursemaid, 69
Draughts and chess, 63
Early education, 98
——— physical activity during, 98
Early rising, 51
East wind, effects of the, 48
Education, 92
——— home, 109
Effects of immoderate mental excitement, 101
Emulation, 113
English-women, mortality of by consumption, 42
Eruptions during teething, 87
——— from vaccination, 73
Excessive mortality of infants, 7
Exercise, 59, 82
Exercises, sedentary, 63
——— gymnastic, 61
Feeding, artificial, 22
Feet, care of, from cold and damp, 44
Fresh air, 82
Flute and wind instruments, 63
Food, the best artificial, 23
" Forcing" system, 94, 103
France, mortality among children in, 10
Frankfort-on-the-Maine, mortality among children in, 10
Friction of the body, 54
——— gums during teething, 88
Fright, injurious effects of, 67
Fruits for children, 35
Geography, 104
Girls, in-door exercises for, 63
——— open air play necessary for, 64
Goat's milk, composition of, 23
Godfrey's cordial, injurious effects of, 29
Governess, qualifications of a, 111
Gums, friction of, during teething, 88
——— scarifying the, 89
Gymnastic exercises, 50, 61
" Hardening" children, 37, 41, 45, 53
Head, clothing of the, 43
Hearty play, indispensable for youth, 61
Heat of mature infants, 38
History, 103
" Hoisting," injurious effects of, 60
Home-education, 109
Hot bath, the, 53
Human milk, composition of, 23
Hygiene, infantile, should be taught in the medical schools, 12
Imitation of the mother's milk, 24
Immoderate mental activity, 100
——— stimulation, effects of, 101
In-door exercise, 59
In-door exercises for girls, 63
Infancy, proper diet of, 15
Infantile coma, 28
Infantile hygiene required to be taught in the medical schools, 12
Infant schools, 109
Infants, excessive mortality of, 7
——— causes of mortality of, 11
——— mortality of, in England and Wales, 10
——— Bedford, 9
——— various continental states, 10
Influence of light on health, 55
Injurious effects of alcoholic stimulants, 21
——— cold, 39
——— cold and damp feet, 44
——— Dalby's carminative, 29
——— diocodium and peppermint, 29
——— Godfrey's cordial, 23
——— fright, 67
——— " hoisting," 60
——— immoderate mental activity, 100
——— narcotics, 29
——— opiates during teething, 87
——— overtasking the brain, 95
——— poppy tea, 29
——— tight lacing, 41
——— the " forcing" system, 94, 103
——— the " hardening" system, 37, 41, 45, 53
Inoculation, 70, 76
Insanity, predisposition to, 101
Jenner's discovery of vaccination, 71
Kinds of food to be avoided by children, 35
Lait de poule, how made, 20
Language and grammar, 103
Lancing the gums during teething, 89

"Leap-frog," the game of, 62
Leaping and vaulting, 62
Light, influence of, on health, 55
Limbs, clothing of the, 43
Master of the infant school, qualifications of, 110
Manchester, mortality among children in, 7, 79
Meal-times in childhood, 34
Mental activity, immoderate, 100
Milk, constituents of, 23
—— the mother's, best imitation of, 24
—— of the cow, constituents of, 24
"Milk-teeth," 83
Mind, improved by slow growth, 102
—— precocity of the, 101
"Model nurse," the, 67
Mother, diet of the nursing, 16
Moral training, 112
Mortality of infants, 7
—— causes of, 11
—— in England and Wales, 10
—— in Bedford, 9
—— in Manchester, 7, 79
—— in various continental states, 10
Mortality from cold, 39
—— consumption, causes of, 42
—— small-pox, 78
Music, 104
—— undue attention to, reprehensible, 106
—— vocal, good tendencies of, 105
Narcotics, injurious effects of, 29
Norway, mortality among children in, 10
Nurse—wet, qualifications of, 17
Nursery and nursemaids, 65
—— management of the, 65
—— temperature of the, 47
Nursing mother, diet of the, 16
Nursemaid, selection of, 66
—— the first educator of the child, 66
Occasional effects of artificial feeding, 28
Oily matter in milk, 23
Ophthalmia during teething, 87
Opiates, injurious effects of, during teething, 87
Overtasking the brain, 95
"Part-singing," 63
Physiology, importance of a knowledge of, (preface), x
Pianoforte playing, when too exclusive, reprehensible, 107
Play for children, 61
Poppy-tea, injurious effects of, 29
Precocity of intellect, instances of, 101
Premature child, diet of, 18
Proper beverage of childhood, 21
—— diet of infancy, 15
Prussia, mortality among children in, 10
Punishment, corporeal, reprehensible, 114
Qualifications of the infant school master, 110
Qualifications of the nursemaid, 66
Quantity of artificial food required in early infancy, 26
Quoits, the game of, 62
Reading, taste for, 112
Retirement to rest, time of, 51
Registrar-General, the, on mortality of Englishwomen, 42
Re-vaccination, 76
Rice food, how made, 32
Rules of diet, 35
Running races, 62
Rusk food, how made, 32
Russia, excessive mortality among children in, 10, 40
Saccharine matter in milk, 23
Sago, not to be wholly depended upon as infantile food, 31
Saxony, mortality among children in, 10
Scarifying the gums during teething, 89
Schools, boarding, 110
—— infant, 109
Sea bathing, 55
Sedentary exercises, 63
Semola, Bullock's, 32
Sleep, 50
—— time for, must be allowed during education, 98
Sleeplessness, causes of, 50
Small pox, frequent prevalence of, 79
Stays, 41
Stimulants, not to be given in childhood, 21
Suitable wet-nurse, choice of, 17
Summary of rules of diet, 35
Sweden, mortality among children in, 10
—— deaths from small-pox in, 78
—— effects of vaccination in, 78
Swimming, 62
Symptoms of teething, 88
System of "hardening" children, 37, 41, 45, 53
Tables of mortality during infancy and childhood, 9, 10
"Task-work," when to be commenced, 108
Tapioca, not to wholly depended upon as food for infants, 31
Teeth, order of appearance of the first set of, 83

Teething, symptoms of, 83
——— management of, 86
Temper of nursemaid, 66
Temperature, 45
——— of the nursery, 47
——— hot, warm, tepid, and cold baths, 53
Topid bath, the, 53
Thermometer, 47
Tight-lacing, injurious effects of, 41
Time for meals in childhood, 34
Time of retiring to rest, 51
——— rising, 51
——— weaning, 19
Training, moral, 112
Truthfulness of nursemaids, 67
Vaccination, 70
——— when it should bo performed, 75
——— eruptions during, 73
"Vaccination Extension Act," 78
Vaccino vesicle, true characters of, 72
Ventilation, importance of, 49
Ventilator, Dr. Arnott's, 49
Vesicle, vaccine, true characters of, 72
——— spurious, characters of the, 75
Vocal music, good tendencies of, 105
Voluntary exertion, 60
Warm bath, the, 53
Washing, bathing, etc., 52
Weaning, 19
——— period of, 19
——— diet during, 20
Welsh flannel, 43
Wet-nurse, choice of, 17
Whey in milk, 23
Wind instruments, 63
"Wisdom teeth," 91
Writing, 104
Youth, exercises and amusements for, 61

T. RICHARDS, 37, GREAT QUEEN STREET.

By the same Author.

PRACTICAL OBSERVATIONS ON THE DIET OF INFANCY AND CHILDHOOD. 8vo. One Shilling.

Opinions of the Press.

"There are few subjects on which modern science is capable of throwing more light than the Diet of Infancy; and Dr. Barker has evidently studied the subject attentively, and may be regarded as a safe guide."—*Athenæum.*

"We think that no rational person will deny that there is an enormous amount of ignorance and prejudice in the management of children, which is not confined to any particular age; any person, therefore, who introduces an improvement is a benefactor on a large scale. To accomplish so much is the aim of Dr. Herbert Barker by the publication of the treatise under notice; and we believe he will succeed if the book become well circulated. With such an impression we give our most cordial recommendation of the work; adding that if ladies will forego one or two books of light reading and obtain Dr. Barker's Treatise, we have no doubt the men and women of after days will profit by the act."—*Bedford Times.*

"We have no hesitation in stating that this *brochure* will be a serviceable additon to the already published works on the diet and regimen of infancy and childhood. We are not favourable generally to the ultra-popular style, even in books treating of such subjects as the present; but if it is justifiable in any place it is in these."—*Lancet.*

"The importance of diet and regimen in infancy cannot be overrated, and we are greatly pleased, that a treatise like the present should have been undertaken by so able a hand. This little book is not one of those additions to quackery called "Hints to Mothers," etc., but really contains useful instruction, evidently the result of experience and careful observation. Upon each of the subjects embraced, Dr. Barker has thrown out observations well calculated for the instruction of the youthful mother and the prejudiced old nurse. We are convinced from our own experience that one half the children born into the world are cut off prematurely, by alternate stuffing, starving and drugging, and general bad management combined. We conclude our notice by extracting a few passages."—*The Institute of Medical, Surgical and Obstetrical Science.*

"This is a portion of a work on the management of children which the author is now conducting through the press. From the specimen before us we augur most favourably of the entire work. The separate issue of the chapter on diet was a most judicious arrangement. It will enable parents to obtain at a cheap rate, information of the highest importance to the health of their offspring, and perhaps there is no subject on which correct information is more extensively needed."—*British Mother's Magazine.*

"The author occupies a high rank in the medical profession, and is entitled to the deference which may well be paid to science combined with experience."—*Nottingham Review.*

"By a timely and judicious attention to the 'Practical Observations' here presented, health and long life will often be insured—by neglecting or disregarding them, a state of perpetual sickness may be entailed upon the objects of a parent's fondest affections."—*Cheltenham Chronicle.*

"This is a plain and admirably written treatise, and the rules given are clear, forcible, and convincing."—*Plymouth Journal.*

"A most useful book for mothers, who would bestow the blessings of early health on their offspring."—*Shrewsbury Journal.*

A CASE OF LARGE SECONDARY PROSTATIC CALCULUS, removed by Perinæal Incision, with a coloured lithograph. 8vo. One Shilling.

"The most remarkable instance of prostatic calculus on record is related by Dr. Herbert Barker, of Bedford, to whose kindness the writer is indebted for the annexed engraving of it."—Druitt's *Surgeon's Vade-Mecum.* 6th Edition. p. 529.

"One of the most complete descriptions on record of a case in which an extremely large calculus of this kind existed, is that by Dr. Barker of Bedford. This gentleman successfully removed a mass formed by twenty-nine portions, weighing three ounces, four drachms, and a grain, from a patient twenty-six years of age."—*The Enlarged Prostate, its Pathology and Treatment.* By Henry Thompson, M.B., F.R.C.S.

"Mr. Fergusson has lately referred me to a case almost identical with the last: it was not published at the time the above observations were made, otherwise he would most probably have alluded to it. It occurred in the practice of Dr. Herbert Barker, and the case is similar to that of Mr. Fergusson in many respects (as in the number of the calculi being the same; their having the peculiarly-shaped surfaces, adapting them accurately to each other; and in the extraction of them by a similar operation). There is a complete and interesting account of it, with a beautiful drawing, showing the shape and size of the calculus, in the *Transactions* of the Provincial Medical and Surgical Association for the year 1847."—Report in the *Lancet* of a case treated by Mr. Fergusson, in the King's College Hospital. By Henry Smith, M.R.C.S.

ON CYSTIC ENTOZOA IN THE HUMAN KIDNEY. With an Illustrative Case. A Paper for which the Council of the Medical Society of London awarded their Silver Medal in 1856. 8vo. One Shilling.

"Nous avons sous les yeux un mémoire qui a été lu devant la Société Médicale de Londres par un des membres, M. le docteur Herbert Barker, et qui prouve que cette grave question est sérieusement étudiée par nos confrères d'outre Manche qui ont, croyons-nous, d'assez fréquentes occasions d'observer des acéphalocystes et des vers intestinaux.

* * * * *

"Mais ces observations acquièrent un très-haut degré d'intérêt pratique, quand on cherche, en remontant vers la cause qui a produit ces accidents, à les rattacher à l'introduction dans notre corps d'un animal, ou du germe d'un animal, fort different de celui que nous avons sous les yeux. C'est qu'a fait M. Herbert Barker dans le travail dont nous parlons."—*Journal de Médecine et de Chirurgie.*

"We refer to it, although belonging to a special branch of science, on account of its bearing upon a difficult scientific problem, viz., the doctrine of spontaneous or equivocal generation."—*Eclectic Review.*

"This pamphlet is an account of a case of the disease to which it relates, and is accompanied by some interesting general observations on the subject of entozoa."—*Athenæum.*

"For our own part, we must be allowed to express our conviction that the whole treatment of this subject is a model of clearness, caution, and patient research, which many more ambitious and over-hasty hypothesis-mongers would do well to consult and imitate."—*Bedford Mercury.*

"Dr. Barker, in his interesting paper, has related a case, in which the cystic entozoa were developed in the kidney of a patient under his care.

"A point of great interest to the Sanitarian, on which Dr. Barker dwells, is, that the cystic entozoa may be taken into the body in food, and that thus received, they may and do give rise to tape-worm; and *vice versâ*, that the introduction into the body of the segments or the ova of tape-worms, may, if thus taken, give origin to the cystic variety.

"This little work is a most useful addition to sanitary literature."—*Journal of Public Health.*

"This subject has considerable interest for other persons than medical men. Many eminent writers have believed in the theory of spontaneous generation, and sought to rid themselves of the difficulty of tracing the origin of many of the smaller and more microscopic orders of animated nature, by simply stating that swarms of living beings are generated spontaneously. Such researches as are here recorded tend to demolish this theory, and to confirm the doctrine, inculcated by the immortal Harvey, that 'all animals whatsoever are produced from ova.' Exceedingly minute creatures, only to be detected by the most powerful microscope, are here clearly traced to their origin, and are found to give rise in their turn to other kinds of living creatures apparently very different."—*Grimsby Guardian.*

REPORT OF THE MORTALITY OF BEDFORD AND OF THIRTY-NINE RURAL PARISHES.

8vo. Presented to the Board of Guardians of the Bedford Union.

IS BEDFORD HEALTHY, AND IF NOT, WHY NOT, AND HOW CAN IT BE MADE SO?

An Address to the Inhabitants. 8vo. Sixpence.

"The result shown by these Tables is that the mortality of Bedford is at a higher rate than that of healthy towns, and that a considerable number of deaths arise from preventible causes. On ascertaining this result, Dr. Barker has issued to the inhabitants an address in the form of a pamphlet, in which he enters upon the whole subject very ably."—*Bedford Times.*

"Dr. Barker has presented his Tables to the Board of Guardians, and wisely so, as they have the power of abating many of the nuisances. * * *

He has done his duty manfully and fearlessly; and the perusal of his two pamphlets has given us the best impression of his persevering diligence in making himself master of the facts, and of his sound sense and general acquaintance with sanitary science, in drawing conclusions from them."—*Association Medical Journal.*

" The following sentences from it deserve to be printed in letters of gold."
* * * *Manchester Weekly Advertiser.*

ON THE RELATIVE VALUE OF THE OZONOMETERS OF DRS. SCHÖNBEIN AND MOFFAT. Reprinted from the *Philosophical Magazine.* 8vo. One Shilling.

" This *brochure* is written simply to show the superiority of Dr. Moffat's ozone-papers over those of Professor Schönbein, a superiority which seems to be established beyond all doubt."—*Journal of Public Health.*

ON THE TREATMENT OF FEVERS, WITH SPECIAL REFERENCE TO VENTILATION. A Physiological Review. 8vo. One Shilling.

" Dr. Barker takes a common sense view of what is required in the treatment of fever. He does not deny that medicines are of use; but he—in common with many of the eminent men of the medical profession from the days of Hippocrates to the present time—insists on the necessity of constantly supplying the fever patient with pure air."—*The Sanitary Review.*

ON INTRA-UTERINE FRACTURES: with an Illustrative Case.

" Dr. H. Barker, of Bedford, has directed attention to the subject of intra-uterine fractures, in their pathological and medico-legal relations. He advises that the bones of the body should be examined in reference to their strength, osseous development, and other physical characters."—Professor Taylor's *Medical Jurisprudence*, 6th edition, p. 511.

CASES OF STRANGULATED HERNIA, AND OPERATIONS: WITH REMARKS. 12mo. Sixpence.

THE INFLUENCE OF SEWER EMANATIONS. 8vo. One Shilling.

" Dr. Barker, in his recent inquiries into the action of this gas (sulphuretted hydrogen) on the animal system, has ascertained that 1 part of it in 1800 of air, is immediately fatal to birds, and that so small a quantity as 1 in 2112 of air will sometimes kill them in about a minute and a half. Larger animals are not so easily affected, although dogs are quickly killed by a mixture containing 1 part of the gas in 210 of air, and more slowly by 1 in 500." —Dr. Letheby's *Report to the Commissioners of Sewers on Sewage and Sewer Gases.*

"Dr. Barker has recently performed an ingenious series of experiments on animals, to determine the effects of each of the noxious principles which arise from cesspools. He placed the animal in a close chamber by a cesspool, with which a tube opening into the chamber communicated; and a lamp was arranged so as to draw a current of cesspool air steadily over the creatures inside. With a pair of bellows Dr. Barker could draw the air from the chamber. A young dog in half an hour 'became very uneasy and restless; he vomited, and had a distinct rigor, and in the course of a day was exhausted. When he was removed he soon recovered.' 'Another dog was subjected to the cesspool air during twelve days:' in the first seven days he underwent a series of sufferings, not unlike the symptoms of the diseases of children in hot weather; on the ninth he was 'very ill and miserable.' After he was liberated, on the twelfth day, he remained 'very thin and weak for six weeks.' Dr. Barker then continued his experiments on the effects of definite doses of the gases in the sewers, and killed or poisoned several sparrows, linnets, jackdaws, and dogs.

"Thus Dr. Barker has, for our instruction, imitated on a small scale, and on a few of the inferior animals, the vast experiment which is constantly going on, and destroys thousands of men, women, and children all over England. Instead of a few animals in a close chamber, more than two millions of people live in London over sewers and cesspools. The poison is generated in every house; it is distributed conveniently along all the lines of road, so as to throw up its vapours into the mouths, throats, and lungs of the people through innumerable gully-holes, which are either left untrapped, or trapped imperfectly, in order that the poisonous gasses might escape. A variation in the pressure of the atmosphere draws up the stinking air from the sewers, like Dr. Barker's bellows. All the details of the experiment were as carefully contrived by the engineers of the old sewers' commissioners as if they were constructing an apparatus for passing currents of poisonous airs steadily over the people of London, with a view, like Dr. Barker, to ascertain their exact effects. The engineers of the new Board of Works have endeavoured to keep the apparatus in order.

"It is now time that this cruel experiment should cease. Last year, when no epidemic prevailed, not less than 14,795 unnatural deaths were registered in London. This was the aggregate effect of the impure airs, and of other sanitary defects.

"Will the London Boards of Works stop the experiment? Are they, like Dr. Barker, convinced and satisfied? Will they bring their common sense to bear on this question? Gases are constantly generated in the sewers and cesspools, and these gases will escape. Their elasticity carries them—and perhaps still more poisonous organic compounds—through the gully-holes, so long as there is no other outlet. But what can be an easier engineering problem than to discharge *into the atmosphere* the sewer gases, through pipes running up, and *at least as high as the chimneys?* This is in partial operation, and if made universal would be a mitigation of the evil. There are many ways of getting entirely rid of these gases, and why should not the inexpensive work be at once done?"—*Registrar-General's Quarterly Return of Marriages, Births, and Deaths.* No. 37. 1858.

"Dr. Barker, of Bedford, has reprinted an account of his clever experiments on the influence of sewage gases on the health of animals. His striking experiments fix attention upon the dangerous effects of these effluvia. They are such as issue from half the gully-holes in the metropolis; and if Dr. Barker's rats and mice and dogs grew sick, restless, and diarrhœal, it is no other than happens to the two millions of human beings who in London live 'in close chambers over sewers and cesspools'."—*Lancet.*

" * * * In another column some account will be found of the remarkable observations of Dr. Barker, of Bedford, bearing out these recommendations of Dr. Lankester."—*Medical Times and Gazette.*

ILLUSTRATIONS OF THE ORIGIN AND PROPAGATION OF CERTAIN EPIDEMIC DISEASES. A paper read before the Epidemiological Society of London; and reprinted from the Transactions of the Society. 8vo. One Shilling.

PREPARING FOR PUBLICATION.

ON THE INFLUENCE OF MALARIA AND MIASMATA in the production of the following diseases: Typhus and Typhoid Fevers, Cholera and the Exanthemata.

An Essay for which the FOTHERGILLIAN GOLD MEDAL was awarded in 1858.

London, New Burlington Street,
February, 1859.

MR. CHURCHILL'S
Publications,
IN
MEDICINE, SURGERY,
AND
SCIENCE.

"It would be unjust to conclude this notice without saying a few words in favour of Mr. Churchill, from whom the profession is receiving, it may be truly said, the most beautiful series of Illustrated Medical Works which has ever been published."—*Lancet.*

"All the publications of Mr. Churchill are prepared with so much taste and neatness, that it is superfluous to speak of them in terms of commendation."—*Edinburgh Medical and Surgical Journal.*

"No one is more distinguished for the elegance and *recherché* style of his publications than Mr. Churchill."—*Provincial Medical Journal.*

"Mr. Churchill's publications are very handsomely got up: the engravings are remarkably well executed."—*Dublin Medical Press.*

"The typography, illustrations, and getting up are, in all Mr. Churchill's publications, most beautiful."—*Monthly Journal of Medical Science.*

"Mr. Churchill's illustrated works are among the best that emanate from the Medical Press."—*Medical Times.*

"We have before called the attention of both students and practitioners to the great advantage which Mr. Churchill has conferred on the profession, in the issue, at such a moderate cost, of works so highly creditable in point of artistic execution and scientific merit."—*Dublin Quarterly Journal.*

Mr. Churchill is the Publisher of the following Periodicals, offering to Authors a wide extent of Literary Announcement, and a Medium of Advertisement, addressed to all Classes of the Profession. Communications, Books for Review, addressed to the respective Editors, are received and duly forwarded by Mr. Churchill.

THE BRITISH AND FOREIGN MEDICO-CHIRURGICAL REVIEW;
OR,
QUARTERLY JOURNAL OF PRACTICAL MEDICINE.

Price Six Shillings. Nos. I. to XLV.

THE QUARTERLY JOURNAL OF MICROSCOPICAL SCIENCE.

Edited by Edwin Lankester, M.D., F.R.S., F.L.S., and George Busk, F.R.C.S.E., F.R.S., F.L.S. Price 4*s.* Nos. I. to XXVI.

THE MEDICAL TIMES AND GAZETTE.

Published Weekly, price Sevenpence, or Stamped, Eightpence.
Annual Subscription, £1. 10*s.*, or Stamped, £1. 14*s.* 8*d.*, and regularly forwarded to all parts of the Kingdom.

The Medical Times and Gazette is favoured with an amount of Literary and Scientific support which enables it to reflect fully the progress of Medical Science, and insure for it a character, an influence, and a circulation possessed at the present time by no Medical Periodical.

THE HALF-YEARLY ABSTRACT OF THE MEDICAL SCIENCES.

Being a Digest of the Contents of the principal British and Continental Medical Works; together with a Critical Report of the Progress of Medicine and the Collateral Sciences. Edited by W. H. Ranking, M.D., Cantab., and C. B. Radcliffe, M.D., Lond. Post 8vo. cloth, 6*s.* 6*d.* Vols. I. to XXVIII.

THE JOURNAL OF PSYCHOLOGICAL MEDICINE AND MENTAL PATHOLOGY.

Being a Quarterly Review of Medical Jurisprudence and Insanity. Edited by Forbes Winslow, M.D. Price 3*s.* 6*d.* Nos. I. to XIII. *New Series.*

THE PHARMACEUTICAL JOURNAL.

EDITED BY JACOB BELL, F.L.S., M.R.I.

Published Monthly, price One Shilling.

*** Vols. I. to XVII., bound in cloth, price 12*s.* 6*d.* each.

THE DUBLIN MEDICAL PRESS.

Published Weekly, Stamped, price Sixpence, free to any part of the Empire.

THE LONDON AND PROVINCIAL MEDICAL DIRECTORY.

Published Annually. 12mo. cloth, 8*s.* 6*d.*

MR. F. A. ABEL, F.C.S., & MR. C. L. BLOXAM.

HANDBOOK OF CHEMISTRY: THEORETICAL, PRACTICAL, AND TECHNICAL. Second Edition. 8vo. cloth, 15*s.*

DR. ACLAND.

MEMOIR ON THE CHOLERA AT OXFORD IN THE YEAR 1854; with Considerations suggested by the Epidemic. 4to. cloth, with Maps, 12*s.*

MR. ACTON, M.R.C.S.

I.

THE FUNCTIONS AND DISORDERS OF THE REPRODUCTIVE ORGANS IN YOUTH, IN ADULT AGE, AND IN ADVANCED LIFE. Considered in their Physiological, Social, and Psychological Relations. Second Edition. 8vo. cloth, 7*s.*

II.

PROSTITUTION: Considered in its Moral, Social, and Sanitary Bearings, with a View to its Amelioration and Regulation. 8vo. cloth, 10*s.* 6*d.*

DR. WILLIAM ADDISON, F.R.S.

I.

CELL THERAPEUTICS. 8vo. cloth, 4*s.*

II.

ON HEALTHY AND DISEASED STRUCTURE, AND THE TRUE PRINCIPLES OF TREATMENT FOR THE CURE OF DISEASE, ESPECIALLY CONSUMPTION AND SCROFULA, founded on MICROSCOPICAL ANALYSIS. 8vo. cloth, 12*s.*

DR. ALEXANDER, F.R.C.S. BY EXAM.

RHEUMATISM: its Nature, Causes, and Cure.
GOUT: its Nature, Causes, Cure, and Prevention.
Post 8vo. cloth, 7*s.* 6*d.*

THE ANATOMICAL REMEMBRANCER; OR, COMPLETE POCKET ANATOMIST. Fifth Edition, carefully Revised. 32mo. cloth, 3*s.* 6*d.*

DR. ALEXANDER ARMSTRONG, R.N.

OBSERVATIONS ON NAVAL HYGIENE AND SCURVY. More particularly as the latter appeared during a Polar Voyage. 8vo. cloth, 5*s.*

DR. ADAMS, A.M.

A TREATISE ON RHEUMATIC GOUT; OR, CHRONIC RHEUMATIC ARTHRITIS. 8vo. cloth, with a Quarto Atlas of Plates, 21*s.*

DR. ADDISON.

ON THE CONSTITUTIONAL AND LOCAL EFFECTS OF DISEASE OF THE SUPRA-RENAL CAPSULES. 4to. cloth. Coloured Plates, 21*s.*

MR. ANDERSON, F.R.C.S.

THE CAUSES, SYMPTOMS, & TREATMENT OF ECCENTRIC NERVOUS AFFECTIONS. 8vo. cloth, 5*s.*

MR. T. J. ASHTON.

ON THE DISEASES, INJURIES, AND MALFORMATIONS OF THE RECTUM AND ANUS. Second Edition. 8vo. cloth, 8*s.*

MR. ATKINSON.

MEDICAL BIBLIOGRAPHY. Vol. I. Royal 8vo. 16*s.*

DR. WILLIAM BALY, F.R.S., & DR. WILLIAM W. GULL.

REPORTS ON EPIDEMIC CHOLERA; its Cause and Mode of Diffusion, Morbid Anatomy, Pathology and Treatment. Drawn up at the desire of the Cholera Committee of the Royal College of Physicians. With Maps, 8vo. cloth, 16*s.*

DR. BARCLAY.

A MANUAL OF MEDICAL DIAGNOSIS. Second Edition. Foolscap 8vo. cloth, 8*s.* 6*d.*

DR. BARLOW.

A MANUAL OF THE PRACTICE OF MEDICINE. Fcap. 8vo. cloth, 12*s.* 6*d.*

DR. BARNES.

THE PHYSIOLOGY AND TREATMENT OF PLACENTA PRÆVIA; being the Lettsomian Lectures on Midwifery for 1857. Post 8vo. cloth, 6*s.*

MR. BATEMAN.

MAGNACOPIA: A Practical Library of Profitable Knowledge, communicating the general Minutiæ of Chemical and Pharmaceutic Routine, together with the generality of Secret Forms of Preparations; including Concentrated Solutions of Camphor and Copaiba in Water, Mineral Succedaneum, Marmoratum, Silicia, Terro-Metallicum, Pharmaceutic Condensions, Prismatic Crystallization, Crystallized Aromatic Salt of Vinegar, Spa Waters; newly-invented Writing Fluids; Etching on Steel or Iron; with an extensive Variety of *et cætera.* Third Edition. 18mo. 6*s.*

DR. BASCOME.

A HISTORY OF EPIDEMIC PESTILENCES, FROM THE EARLIEST AGES. 8vo. cloth, 8*s.*

MR. LIONEL J. BEALE, M.R.C.S.

I.

THE LAWS OF HEALTH IN THEIR RELATIONS TO MIND AND BODY. A Series of Letters from an Old Practitioner to a Patient. Post 8vo. cloth, 7*s.* 6*d.*

II.

HEALTH AND DISEASE, IN CONNECTION WITH THE GENERAL PRINCIPLES OF HYGIENE. Fcap. 8vo., 2*s.* 6*d.*

DR. BEALE, F.R.S.

I.

HOW TO WORK WITH THE MICROSCOPE. Crown 8vo. cloth, 5*s.*

II.

THE MICROSCOPE, IN ITS APPLICATION TO PRACTICAL MEDICINE. With a Coloured Plate, and 270 Woodcuts. Second Edition. 8vo. cloth, 14*s.*

III.

ON THE ANATOMY OF THE LIVER. Illustrated with 66 Photographs of the Author's Drawings. 8vo. cloth, 6*s.* 6*d.*

IV.

ILLUSTRATIONS OF THE SALTS OF URINE, URINARY DEPOSITS, and CALCULI. 37 Plates, containing upwards of 170 Figures copied from Nature, with descriptive Letterpress. 8vo. cloth, 9*s.* 6*d.*

DR. BASHAM.

ON DROPSY, CONNECTED WITH DISEASE OF THE KIDNEYS (MORBUS BRIGHTII), and on some other Diseases of those Organs, associated with Albuminous and Purulent Urine. Illustrated by numerous Drawings from the Microscope. 8vo. cloth, 9*s.*

MR. BEASLEY.

I.

THE BOOK OF PRESCRIPTIONS; containing 3000 Prescriptions. Collected from the Practice of the most eminent Physicians and Surgeons, English and Foreign. Second Edition. 24mo. cloth, 6*s.*

II.

THE DRUGGIST'S GENERAL RECEIPT-BOOK: comprising a copious Veterinary Formulary and Table of Veterinary Materia Medica; Patent and Proprietary Medicines, Druggists' Nostrums, &c.; Perfumery, Skin Cosmetics, Hair Cosmetics, and Teeth Cosmetics; Beverages, Dietetic Articles, and Condiments; Trade Chemicals, Miscellaneous Preparations and Compounds used in the Arts, &c.; with useful Memoranda and Tables. Fourth Edition. 24mo. cloth, 6*s.*

III.

THE POCKET FORMULARY AND SYNOPSIS OF THE BRITISH AND FOREIGN PHARMACOPŒIAS; comprising standard and approved Formulæ for the Preparations and Compounds employed in Medical Practice. Sixth Edition, corrected and enlarged. 24mo. cloth, 6*s.*

DR. HENRY BENNET.

I.

NUTRITION IN HEALTH AND DISEASE. Post 8vo. cloth, 5*s.*

II.

A PRACTICAL TREATISE ON INFLAMMATION AND OTHER DISEASES OF THE UTERUS. Third Edition, revised, with Additions. 8vo. cloth, 12*s.* 6*d.*

III.

A REVIEW OF THE PRESENT STATE OF UTERINE PATHOLOGY. 8vo. cloth, 4*s.*

MR. P. HINCKES BIRD, F.R.C.S.

PRACTICAL TREATISE ON THE DISEASES OF CHILDREN AND INFANTS AT THE BREAST. Translated from the French of M. Bouchut, with Notes and Additions. 8vo. cloth. 20*s.*

DR. BILLING, F.R.S.

I.

ON DISEASES OF THE LUNGS AND HEART. 8vo. cloth, 6*s.*

II.

FIRST PRINCIPLES OF MEDICINE. Fifth Edition, Revised and Improved. 8vo. 10*s.* 6*d.*

DR. O'B. BELLINGHAM.

ON ANEURISM, AND ITS TREATMENT BY COMPRESSION. 12mo. cloth, 4*s.*

MR. HENRY HEATHER BIGG.

I.

THE MECHANICAL APPLIANCES NECESSARY FOR THE TREATMENT OF DEFORMITIES. Post 8vo. cloth, 4*s.*

II.

ARTIFICIAL LIMBS; THEIR CONSTRUCTION AND APPLICATION. With Engravings on Wood. 8vo. cloth, 3*s.*

DR. GOLDING BIRD, F.R.S.

I.

URINARY DEPOSITS; THEIR DIAGNOSIS, PATHOLOGY, AND THERAPEUTICAL INDICATIONS. With Engravings on Wood. Fifth Edition. Post 8vo. cloth, 10*s.* 6*d.*

II.

ELEMENTS OF NATURAL PHILOSOPHY; being an Experimental Introduction to the Study of the Physical Sciences. Illustrated with numerous Engravings on Wood. Fourth Edition. By Golding Bird, M.D., F.R.S., and Charles Brooke, M.B. Cantab., F.R.S. Fcap. 8vo. cloth, 12*s.* 6*d.*

MR. JAMES BIRD.

VEGETABLE CHARCOAL: its MEDICINAL and ECONOMIC PROPERTIES; with Practical Remarks on its Use in Chronic Affections of the Stomach and Bowels. Second Edition, 8vo. cloth, 3*s.* 6*d.*

MR. BISHOP, F.R.S.

I.

ON DEFORMITIES OF THE HUMAN BODY, their Pathology and Treatment. With Engravings on Wood. 8vo. cloth, 10*s.*

II.

ON ARTICULATE SOUNDS, AND ON THE CAUSES AND CURE OF IMPEDIMENTS OF SPEECH. 8vo. cloth, 4*s.*

III.

LETTSOMIAN LECTURES ON THE PHYSICAL CONSTITUTION, DISEASES AND FRACTURES OF BONES. Post 8vo., 2*s.* 6*d.*

DR. BLAKISTON, F.R.S.

PRACTICAL OBSERVATIONS ON CERTAIN DISEASES OF THE CHEST; and on the Principles of Auscultation. 8vo. cloth, 12*s.*

MR. WALTER BLUNDELL.

PAINLESS TOOTH-EXTRACTION WITHOUT CHLOROFORM; with Observations on Local Anæsthesia by Congelation in General Surgery. Second Edition, 2*s.* 6*d.* cloth. Illustrated on Wood and Stone.

DR. JOHN W. F. BLUNDELL.

MEDICINA MECHANICA; or, the Theory and Practice of Active and Passive Exercises and Manipulations in the Cure of Chronic Disease. Post 8vo. cloth, 6*s.*

MR. JOHN E. BOWMAN.

I.

PRACTICAL CHEMISTRY, including Analysis. With numerous Illustrations on Wood. Third Edition. Foolscap 8vo. cloth, 6*s.* 6*d.*

II.

MEDICAL CHEMISTRY; with Illustrations on Wood. Third Edition. Fcap. 8vo. cloth, 6*s.* 6*d.*

DR. BRINTON.

I.

THE DISEASES OF THE STOMACH, with an Introduction on its Anatomy and Physiology; being Lectures delivered at St. Thomas's Hospital. Post 8vo. cloth, 10*s.* 6*d.*

II.

THE SYMPTOMS, PATHOLOGY, AND TREATMENT OF ULCER OF THE STOMACH. Post 8vo. cloth, 5*s.*

DR. JAMES BRIGHT.

ON DISEASES OF THE CHEST AND AIR PASSAGES; with a Review of the several Climates recommended in these Affections. Second Edition. Post 8vo. cloth, 7*s.* 6*d.*

MR. ISAAC BAKER BROWN, F.R.C.S.

I.

ON SOME DISEASES OF WOMEN ADMITTING OF SURGICAL TREATMENT. With Plates, 8vo. cloth, 10*s.* 6*d.*

II.

ON SCARLATINA: its Nature and Treatment. Second Edition. Fcap. 8vo. cloth, 3*s.*

MR. BERNARD E. BRODHURST.

I.

ON LATERAL CURVATURE OF THE SPINE: its Pathology and Treatment. Post 8vo. cloth, with Plates, 3*s.*

II.

ON THE NATURE AND TREATMENT OF CLUBFOOT AND ANALOGOUS DISTORTIONS involving the TIBIO-TARSAL ARTICULATION. With Engravings on Wood. 8vo. cloth, 4*s.* 6*d.*

DR. JOHN CHARLES BUCKNILL, & DR. DANIEL H. TUKE.

A MANUAL OF PSYCHOLOGICAL MEDICINE: containing the History, Nosology, Description, Statistics, Diagnosis, Pathology, and Treatment of Insanity. 8vo. cloth, 15*s.*

DR. BUDD, F.R.S.

I.

ON DISEASES OF THE LIVER.

Illustrated with Coloured Plates and Engravings on Wood. Third Edition. 8vo. cloth, 16*s.*

II.

ON THE ORGANIC DISEASES AND FUNCTIONAL DISORDERS OF THE STOMACH. 8vo. cloth, 9*s.*

DR. BURGESS.

THE MEDICAL AND LEGAL RELATIONS OF MADNESS; showing a Cellular Theory of Mind, and of Nerve Force, and also of Vegetative Vital Force. 8vo. cloth, 7*s.*

DR. BURNETT.

I.

THE PHILOSOPHY OF SPIRITS IN RELATION TO MATTER. 8vo. cloth, 9*s.*

II.

INSANITY TESTED BY SCIENCE. 8vo. cloth, 5*s.*

DR. BRYCE.

ENGLAND AND FRANCE BEFORE SEBASTOPOL, looked at from a Medical Point of View. 8vo. cloth, 6*s.*

DR. JOHN M. CAMPLIN, F.L.S.

ON DIABETES, AND ITS SUCCESSFUL TREATMENT. Fcap. 8vo. cloth, 3*s.*

MR. ROBERT B. CARTER, M.R.C.S.

I.

ON THE INFLUENCE OF EDUCATION AND TRAINING IN PREVENTING DISEASES OF THE NERVOUS SYSTEM. Fcap. 8vo., 6*s.*

II.

THE PATHOLOGY AND TREATMENT OF HYSTERIA. Post 8vo. cloth, 4*s.* 6*d.*

DR. CARPENTER, F.R.S.

I.

PRINCIPLES OF HUMAN PHYSIOLOGY. With numerous Illustrations on Steel and Wood. Fifth Edition. 8vo. cloth, 26*s.*

II.

PRINCIPLES OF COMPARATIVE PHYSIOLOGY. Illustrated with 300 Engravings on Wood. Fourth Edition. 8vo. cloth, 24*s.*

III.

A MANUAL OF PHYSIOLOGY. With numerous Illustrations on Steel and Wood. Third Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

IV.

THE MICROSCOPE AND ITS REVELATIONS. With numerous Engravings on Wood. Second Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

MR. CHARLES CHALMERS.

ELECTRO-CHEMISTRY, with Positive Results; and Notes for Inquiry on the Sciences of Geology and Astronomy: with a Tract of Miscellanies. 8vo. cloth, 3*s.* 6*d.*

DR. CHAMBERS.

DIGESTION AND ITS DERANGEMENTS. Post 8vo. cloth, 10*s.* 6*d.*

DR. G. C. CHILD.

ON INDIGESTION, AND CERTAIN BILIOUS DISORDERS OFTEN CONJOINED WITH IT. Second Edition. 8vo. cloth, 6*s.*

MR. H. T. CHAPMAN, F.R.C.S.

I.

THE TREATMENT OF OBSTINATE ULCERS AND CUTANEOUS ERUPTIONS OF THE LEG WITHOUT CONFINEMENT. Second Edition. Post 8vo. cloth, 3*s.* 6*d.*

II.

VARICOSE VEINS: their Nature, Consequences, and Treatment, Palliative and Curative. Post 8vo. cloth, 3*s.* 6*d.*

MR. J. PATERSON CLARK, M.A.

THE ODONTALGIST; OR, HOW TO PRESERVE THE TEETH, CURE TOOTHACHE, AND REGULATE DENTITION FROM INFANCY TO AGE. With plates. Post 8vo. cloth, 5*s.*

DR. CONOLLY.

THE CONSTRUCTION AND GOVERNMENT OF LUNATIC ASYLUMS AND HOSPITALS FOR THE INSANE. With Plans. Post 8vo. cloth, 6*s.*

LEWIS CORNARO.

SURE METHODS OF ATTAINING A LONG AND HEALTHFUL LIFE. Thirty-eighth Edition. 18mo., 1*s.*

MR. COOLEY.

COMPREHENSIVE SUPPLEMENT TO THE PHARMACOPŒIAS.

THE CYCLOPÆDIA OF PRACTICAL RECEIPTS, AND COLLATERAL INFORMATION IN THE ARTS, PROFESSIONS, MANUFACTURES, AND TRADES, INCLUDING MEDICINE, PHARMACY, AND DOMESTIC ECONOMY; designed as a Compendious Book of Reference for the Manufacturer, Tradesman, Amateur, and Heads of Families. Third and greatly enlarged Edition, 8vo. cloth, 26*s.*

MR. BRANSBY B. COOPER, F.R.S.

LECTURES ON THE PRINCIPLES AND PRACTICE OF SURGERY. 8vo. cloth, 21*s.*

MR. W. WHITE COOPER.

ON NEAR SIGHT, AGED SIGHT, IMPAIRED VISION, AND THE MEANS OF ASSISTING SIGHT. With 31 Illustrations on Wood. Second Edition. Fcap. 8vo. cloth, 7*s.* 6*d.*

MR. COOPER.

A DICTIONARY OF PRACTICAL SURGERY; comprehending all the most interesting Improvements, from the Earliest Times down to the Present Period. Seventh Edition. One very thick volume, 8vo., 1*l.* 10*s.*

MR. HOLMES COOTE, F.R.C.S.

A REPORT ON SOME IMPORTANT POINTS IN THE TREATMENT OF SYPHILIS. 8vo. cloth, 5*s.*

SIR ASTLEY COOPER, BART., F.R.S.

ON THE STRUCTURE AND DISEASES OF THE TESTIS. Illustrated with 24 highly finished Coloured Plates. Second Edition. Royal 4to. *Reduced from* £3. 3*s.* *to* £1. 10*s.*

DR. COTTLE.

A MANUAL OF HUMAN PHYSIOLOGY FOR STUDENTS; being a Condensation of the Subject, a Conservation of the Matter, and a Record of Facts and Principles up to the present Day. Fcap. 8vo., 5*s.*

DR. COTTON.

I.

ON CONSUMPTION: Its Nature, Symptoms, and Treatment. To which Essay was awarded the Fothergillian Gold Medal of the Medical Society of London. Second Edition. 8vo. cloth, 8*s.*

II.

PHTHISIS AND THE STETHOSCOPE: a concise Practical Guide to the Physical Diagnosis of Consumption. Foolscap 8vo. cloth, 3*s.* 6*d.*

MR. COULSON.

I.

ON DISEASES OF THE BLADDER AND PROSTATE GLAND. The Fifth Edition, revised and enlarged. 8vo. cloth, 10*s.* 6*d.*

II.

ON LITHOTRITY AND LITHOTOMY; with Engravings on Wood. 8vo. cloth, 8*s.*

III.

ON DISEASES OF THE JOINTS. 8vo. *In the Press.*

MR. CURLING, F.R.S.

I.

OBSERVATIONS ON DISEASES OF THE RECTUM. Second Edition. 8vo. cloth, 5*s.*

II.

A PRACTICAL TREATISE ON DISEASES OF THE TESTIS, SPERMATIC CORD, AND SCROTUM. Second Edition, with Additions. 8vo. cloth, 14*s.*

MR. JOHN DALRYMPLE, F.R.S., F.R.C.S.

PATHOLOGY OF THE HUMAN EYE. Complete in Nine Fasciculi: imperial 4to., 20*s.* each; half-bound morocco, gilt tops, 9*l.* 15*s.*

DR. DAVEY.

I.

THE GANGLIONIC NERVOUS SYSTEM: its Structure, Functions, and Diseases. 8vo. cloth, 9*s.*

II.

ON THE NATURE AND PROXIMATE CAUSE OF INSANITY. Post 8vo. cloth, 3*s.*

DR. HERBERT DAVIES.

ON THE PHYSICAL DIAGNOSIS OF DISEASES OF THE LUNGS AND HEART. Second Edition. Post 8vo. cloth, 8*s.*

DR. HALL DAVIS.

ILLUSTRATIONS OF DIFFICULT PARTURITION. Post 8vo. cloth, 6*s.* 6*d.*

DR. JOHN DAVY, F.R.S.

FRAGMENTARY REMAINS, LITERARY AND SCIENTIFIC, of SIR HUMPHREY DAVY, Bart., LL.D., late President of the Royal Society; with a Sketch of his Life, and Selections from his Correspondence. 8vo. cloth, 10*s.* 6*d.*

MR. DIXON.

A GUIDE TO THE PRACTICAL STUDY OF DISEASES OF THE EYE. Post 8vo. cloth, 8*s.* 6*d.*

DR. DOBELL.

DEMONSTRATIONS OF DISEASES IN THE CHEST, AND THEIR PHYSICAL DIAGNOSIS. Illustrated with Coloured Plates. 8vo. cloth, 12*s.* 6*d.*

DR. TOOGOOD DOWNING.

NEURALGIA: its various Forms, Pathology, and Treatment. THE JACKSONIAN PRIZE ESSAY FOR 1850. 8vo. cloth, 10*s.* 6*d.*

DR. DRUITT, F.R.C.S.

THE SURGEON'S VADE-MECUM; with numerous Engravings on Wood. Seventh Edition. Foolscap 8vo. cloth 12*s.* 6*d.*

MR. DUNN, F.R.C.S.

AN ESSAY ON PHYSIOLOGICAL PSYCHOLOGY. 8vo. cloth, 4*s.*

DR. JOHN C. EGAN.

SYPHILITIC DISEASES: THEIR PATHOLOGY, DIAGNOSIS, AND TREATMENT: including Experimental Researches on Inoculation, as a Differential Agent in Testing the Character of these Affections. 8vo. cloth, 9*s.*

SIR JAMES EYRE, M.D.

I.

THE STOMACH AND ITS DIFFICULTIES. Fourth Edition. Fcap. 8vo. cloth, 2*s.* 6*d.*

II.

PRACTICAL REMARKS ON SOME EXHAUSTING DISEASES. Second Edition. Post 8vo. cloth, 4*s.* 6*d.*

DR. FENWICK.

ON SCROFULA AND CONSUMPTION. Clergyman's Sore Throat, Catarrh, Croup, Bronchitis, Asthma. Fcap. 8vo., 2*s.* 6*d.*

MR. FERGUSSON, F.R.S.

A SYSTEM OF PRACTICAL SURGERY; with numerous Illustrations on Wood. Fourth Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

SIR JOHN FORBES, M.D., D.C.L. (OXON.), F.R.S.

NATURE AND ART IN THE CURE OF DISEASE.

Second Edition. Post 8vo. cloth, 6*s.*

DR. D. J. T. FRANCIS.

CHANGE OF CLIMATE;

considered as a Remedy in Dyspeptic, Pulmonary, and other Chronic Affections; with an Account of the most Eligible Places of Residence for Invalids in Spain, Portugal, Algeria, &c., at different Seasons of the Year; and an Appendix on the Mineral Springs of the Pyrenees, Vichy, and Aix les Bains. Post 8vo. cloth, 8*s.* 6*d.*

C. REMIGIUS FRESENIUS.

ELEMENTARY INSTRUCTION IN CHEMICAL ANALYSIS,

AS PRACTISED IN THE LABORATORY OF GIESSEN. Edited by LLOYD BULLOCK, F.C.S.

QUALITATIVE. Fourth Edition. 8vo. cloth, 9*s.*

QUANTITATIVE. Second Edition. 8vo. cloth, 15*s.*

MR. FOWNES, PH.D., F.R.S.

I.

A MANUAL OF CHEMISTRY;

with numerous Illustrations on Wood. Seventh Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

Edited by H. BENCE JONES, M.D., F.R.S., and A. W. HOFMANN, PH.D., F.R.S.

II.

CHEMISTRY, AS EXEMPLIFYING THE WISDOM AND BENEFICENCE OF GOD.

Second Edition. Fcap. 8vo. cloth, 4*s.* 6*d.*

III.

INTRODUCTION TO QUALITATIVE ANALYSIS.

Post 8vo. cloth, 2*s.*

IV.

CHEMICAL TABLES.

Folio, price 2*s.* 6*d.*

DR. FULLER.

ON RHEUMATISM, RHEUMATIC GOUT, AND SCIATICA:

their Pathology, Symptoms, and Treatment. Second Edition. 8vo. cloth, 12*s.* 6*d.*

DR. GAIRDNER.

ON GOUT;

its History, its Causes, and its Cure. Third Edition. Post 8vo. cloth, 8*s.* 6*d.*

MR. GALLOWAY.

I.

THE FIRST STEP IN CHEMISTRY.

Second Edition. Fcap. 8vo. cloth, 5*s.*

II.

A MANUAL OF QUALITATIVE ANALYSIS.

Second Edition. Post 8vo. cloth, 4*s.* 6*d.*

III.

CHEMICAL DIAGRAMS.

On Four large Sheets, for School and Lecture Rooms. 5*s.* 6*d.* the Set.

MR. F. J. GANT.

THE IRRITABLE BLADDER: its Causes and Curative Treatment. Post 8vo. cloth, 4*s*. 6*d*.

MR. ROBERT GARNER, F.L.S.

EUTHERAPEIA; or, AN EXAMINATION OF THE PRINCIPLES OF MEDICAL SCIENCE, including Researches on the Nervous System. Illustrated with 9 Engravings on Copper, and Engravings on Wood. 8vo. cloth, 8*s*.

DR. GRANVILLE, F.R.S.

ON SUDDEN DEATH. Post 8vo., 2*s*. 6*d*.

MR. GRAY, M.R.C.S.

PRESERVATION OF THE TEETH indispensable to Comfort and Appearance, Health, and Longevity. 18mo. cloth, 3*s*.

MR. GRIFFITHS.

CHEMISTRY OF THE FOUR SEASONS—Spring, Summer, Autumn, Winter. Illustrated with Engravings on Wood. Second Edition. Foolscap 8vo. cloth, 7*s*. 6*d*.

DR. GULLY.

I.

THE WATER CURE IN CHRONIC DISEASE: an Exposition of the Causes, Progress, and Terminations of various Chronic Diseases of the Viscera, Nervous System, and Limbs, and of their Treatment by Water and other Hygienic Means. Fifth Edition. Foolscap 8vo. sewed, 2*s*. 6*d*.

II.

THE SIMPLE TREATMENT OF DISEASE; deduced from the Methods of Expectancy and Revulsion. 18mo. cloth, 4*s*.

DR. GUY.

HOOPER'S PHYSICIAN'S VADE-MECUM; OR, MANUAL OF THE PRINCIPLES AND PRACTICE OF PHYSIC. New Edition, considerably enlarged, and rewritten. Foolscap 8vo. cloth, 12*s*. 6*d*.

GUY'S HOSPITAL REPORTS. Third Series. Vols. I. to IV., 8vo., 7*s*. 6*d*. each.

DR. HABERSHON.

OBSERVATIONS ON DISEASES OF THE ALIMENTARY CANAL, ŒSOPHAGUS, STOMACH, CÆCUM, and INTESTINES. 8vo. cloth, 10*s*. 6*d*.

MR. HARRISON, F.R.C.S.

THE PATHOLOGY AND TREATMENT OF STRICTURE OF THE URETHRA. Second Edition. 8vo. cloth, 5*s*.

DR. MARSHALL HALL, F.R.S.

I.

PRONE AND POSTURAL RESPIRATION IN DROWNING AND OTHER FORMS OF APNŒA OR SUSPENDED RESPIRATION. Post 8vo. cloth. 5*s.*

II.

PRACTICAL OBSERVATIONS AND SUGGESTIONS IN MEDICINE. Second Series. Post 8vo. cloth, 8*s.* 6*d.*

* * *

DR. C. RADCLYFFE HALL.

TORQUAY IN ITS MEDICAL ASPECT AS A RESORT FOR PULMONARY INVALIDS. Post 8vo. cloth, 5*s.*

* * *

MR. HARDWICH.

A MANUAL OF PHOTOGRAPHIC CHEMISTRY. Fifth Edition. Foolscap 8vo. cloth, 7*s.* 6*d.*

* * *

MR. HARE, M.R.C.S.

PRACTICAL OBSERVATIONS ON THE PREVENTION, CAUSES, AND TREATMENT OF CURVATURES OF THE SPINE; with Engravings. Third Edition. 8vo. cloth, 6*s.*

* * *

MR. JAMES B. HARRISON, F.R.C.S.

ON THE CONTAMINATION OF WATER BY THE POISON OF LEAD, and its Effects on the Human Body. Foolscap 8vo. cloth, 3*s.* 6*d.*

* * *

DR. HARTWIG.

I.

ON SEA BATHING AND SEA AIR. Fcap. 8vo., 2*s.* 6*d.*

II.

ON THE PHYSICAL EDUCATION OF CHILDREN. Fcap. 8vo., 2*s.* 6*d.*

* * *

DR. A. H. HASSALL.

I.

THE MICROSCOPIC ANATOMY OF THE HUMAN BODY, IN HEALTH AND DISEASE. Illustrated with Several Hundred Drawings in Colour. Two vols. 8vo. cloth, £1. 10*s.*

II.

THE URINE, IN HEALTH AND DISEASE; or, a Simple Explanation of the Physical Properties, Composition, and Uses of the Urine, of the Functions of the Kidneys, and of the Treatment of Urinary Disorders. With Twenty-four Engravings. Post 8vo. cloth, 5*s.*

* * *

MR. ALFRED HAVILAND, M.R.C.S.

CLIMATE, WEATHER, AND DISEASE; being a Sketch of the Opinions of the most celebrated Ancient and Modern Writers with regard to the Influence of Climate and Weather in producing Disease. With Four coloured Engravings. 8vo. cloth, 7*s.*

MR. WILLIAM HAYCOCK, M.R.C.V.S.

A TREATISE ON THE PRINCIPLES AND PRACTICE OF VETERINARY MEDICINE AND SURGERY. 8vo. boards, 6*s.* 6*d.*

DR. HEADLAND.

ON THE ACTION OF MEDICINES IN THE SYSTEM. Being the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for 1852. Second Edition. 8vo. cloth, 10*s.*

MR. HIGGINBOTTOM, F.R.S., F.R.C.S.

I.

AN ESSAY ON THE USE OF THE NITRATE OF SILVER IN THE CURE OF INFLAMMATION, WOUNDS, AND ULCERS. Second Edition. Price 5*s.*

II.

ADDITIONAL OBSERVATIONS ON THE NITRATE OF SILVER; with full Directions for its Use as a Therapeutic Agent. 8vo., 2*s.* 6*d.*

MR. JOHN HILTON, F.R.S.

ON THE DEVELOPMENT AND DESIGN OF CERTAIN PORTIONS OF THE CRANIUM. Illustrated with Plates in Lithography. 8vo. cloth, 6*s.*

DR. HINDS.

THE HARMONIES OF PHYSICAL SCIENCE IN RELATION TO THE HIGHER SENTIMENTS; with Observations on Medical Studies, and on the Moral and Scientific Relations of Medical Life. Post 8vo., cloth, 4*s.*

DR. DECIMUS HODGSON.

THE PROSTATE GLAND, AND ITS ENLARGEMENT IN OLD AGE. With 12 Plates. Royal 8vo., cloth, 6*s.*

MR. JABEZ HOGG.

THE OPHTHALMOSCOPE: an Essay on its value in the Exploration of Internal Eye Diseases. Second Edition. Cloth, 3*s.* 6*d.*

MR. LUTHER HOLDEN, F.R.C.S.

HUMAN OSTEOLOGY: with Plates, showing the Attachments of the Muscles. Second Edition. 8vo. cloth, 16*s.*

MR. C. HOLTHOUSE.

I.

ON SQUINTING, PARALYTIC AFFECTIONS OF THE EYE, and CERTAIN FORMS OF IMPAIRED VISION. Fcap. 8vo. cloth, 4*s.* 6*d.*

II.

LECTURES ON STRABISMUS, delivered at the Westminster Hospital. 8vo. cloth, 4*s.*

DR. W. CHARLES HOOD.

SUGGESTIONS FOR THE FUTURE PROVISION OF CRIMINAL LUNATICS. 8vo. cloth, 5*s.* 6*d.*

MR. P. HOOD.

THE SUCCESSFUL TREATMENT OF SCARLET FEVER; also, OBSERVATIONS ON THE PATHOLOGY AND TREATMENT OF CROWING INSPIRATIONS OF INFANTS. Post 8vo. cloth, 5*s.*

DR. HOOPER.

THE MEDICAL DICTIONARY; containing an Explanation of the Terms used in Medicine and the Collateral Sciences. Eighth Edition. Edited by KLEIN GRANT, M.D. 8vo. cloth, 30*s.*

MR. JOHN HORSLEY.

A CATECHISM OF CHEMICAL PHILOSOPHY; being a Familiar Exposition of the Principles of Chemistry and Physics. With Engravings on Wood. Designed for the Use of Schools and Private Teachers. Post 8vo. cloth, 6*s.* 6*d.*

DR. HUFELAND.

THE ART OF PROLONGING LIFE. A New Edition. Edited by ERASMUS WILSON, F.R.S. Foolscap 8vo., 2*s.* 6*d.*

MR. W. CURTIS HUGMAN, F.R.C.S.

ON HIP-JOINT DISEASE; with reference especially to Treatment by Mechanical Means for the Relief of Contraction and Deformity of the Affected Limb. 8vo. cloth, 3*s.* 6*d.*

DR. HENRY HUNT.

ON HEARTBURN AND INDIGESTION. 8vo. cloth, 5*s.*

DR. INMAN.

THE PHENOMENA OF SPINAL IRRITATION AND OTHER FUNCTIONAL DISEASES OF THE NERVOUS SYSTEM EXPLAINED, and a Rational Plan of Treatment deduced. With Plates. 8vo. cloth, 6*s.*

DR. ARTHUR JACOB, F.R.C.S.

A TREATISE ON THE INFLAMMATIONS OF THE EYE-BALL. Foolscap 8vo. cloth, 5*s.*

DR. JAMES JAGO, A.B., CANTAB.; M.B., OXON.

OCULAR SPECTRES AND STRUCTURES AS MUTUAL EXPONENTS. Illustrated with Engravings on Wood. 8vo. cloth, 5*s.*

MR. J. H. JAMES, F.R.C.S.

PRACTICAL OBSERVATIONS ON THE OPERATIONS FOR STRANGULATED HERNIA. 8vo. cloth, 5*s.*

DR. HANDFIELD JONES, F.R.S., & DR. EDWARD H. SIEVEKING.

A MANUAL OF PATHOLOGICAL ANATOMY. Illustrated with numerous Engravings on Wood. Foolscap 8vo. cloth, 12*s.* 6*d.*

MR. WHARTON JONES, F.R.S.

I.

A MANUAL OF THE PRINCIPLES AND PRACTICE OF OPHTHALMIC MEDICINE AND SURGERY; illustrated with Engravings, plain and coloured. Second Edition. Foolscap 8vo. cloth, 12*s.* 6*d.*

II.

THE WISDOM AND BENEFICENCE OF THE ALMIGHTY, AS DISPLAYED IN THE SENSE OF VISION; being the Actonian Prize Essay for 1851. With Illustrations on Steel and Wood. Foolscap 8vo. cloth, 4*s.* 6*d.*

III.

DEFECTS OF SIGHT: their Nature, Causes, Prevention, and General Management. Fcap. 8vo. 2*s.* 6*d.*

IV.

A CATECHISM OF THE MEDICINE AND SURGERY OF THE EYE AND EAR. For the Clinical Use of Hospital Students. Fcap. 8vo. 2*s.* 6*d.*

V.

A CATECHISM OF THE PHYSIOLOGY AND PHILOSOPHY OF BODY, SENSE, AND MIND. For Use in Schools and Colleges. Fcap. 8vo., 2*s.* 6*d.*

DR. BENCE JONES, F.R.S.

I.

MULDER ON WINE. Foolscap 8vo. cloth, 6*s.*

II.

ON ANIMAL CHEMISTRY, in its relation to STOMACH and RENAL DISEASES. 8vo. cloth, 6*s.*

MR. FURNEAUX JORDAN, M.R.C.S.

AN INTRODUCTION TO CLINICAL SURGERY; WITH A Method of Investigating and Reporting Surgical Cases. Fcap. 8vo. cloth, 5*s.*

MR. JUDD.

A PRACTICAL TREATISE ON URETHRITIS AND SYPHILIS: including Observations on the Power of the Menstruous Fluid, and of the Discharge from Leucorrhœa and Sores to produce Urethritis: with a variety of Examples, Experiments, Remedies, and Cures. 8vo. cloth, £1. 5*s.*

MR. KNAGGS.

UNSOUNDNESS OF MIND CONSIDERED IN RELATION TO THE QUESTION OF RESPONSIBILITY IN CRIMINAL CASES. 8vo. cloth, 4*s.* 6*d.*

DR. LAENNEC.

A MANUAL OF AUSCULTATION AND PERCUSSION. Translated and Edited by J. B. SHARPE, M.R.C.S. 3*s.*

DR. HUNTER LANE, F.L.S.

A COMPENDIUM OF MATERIA MEDICA AND PHARMACY; adapted to the London Pharmacopœia, 1851, embodying all the new French, American, and Indian Medicines, and also comprising a Summary of Practical Toxicology. Second Edition. 24mo. cloth, 5*s.* 6*d.*

DR. LANE, M.A.

HYDROPATHY; OR, THE NATURAL SYSTEM OF MEDICAL TREATMENT. An Explanatory Essay. Post 8vo. cloth, 3*s.* 6*d.*

MR. LAURENCE, M.B., F.R.C.S.

THE DIAGNOSIS OF SURGICAL CANCER. The Liston Prize Essay for 1854. Second Edition. Plates, 8vo. cloth, 7*s.* 6*d.*

MR. LAWRENCE, F.R.S.

A TREATISE ON RUPTURES. The Fifth Edition, considerably enlarged. 8vo. cloth, 16*s.*

DR. EDWIN LEE.

I.

THE EFFECT OF CLIMATE ON TUBERCULOUS DISEASE, with Notices of the chief Foreign Places of Winter Resort. Small 8vo. cloth, 5*s.* 6*d.*

II.

THE WATERING PLACES OF ENGLAND, CONSIDERED with Reference to their Medical Topography. Third Edition. Foolscap 8vo. cloth, 5*s.* 6*d.*

III.

THE BATHS OF GERMANY, FRANCE, & SWITZERLAND. Third Edition. Post 8vo. cloth, 8*s.* 6*d.*

IV.

THE BATHS OF RHENISH GERMANY. Post 8vo. cloth, 4*s.*

DR. ROBERT LEE, F.R.S.

I.

A TREATISE ON THE SPECULUM; with Three Hundred Cases. 8vo. cloth, 4*s.* 6*d.*

II.

CLINICAL REPORTS OF OVARIAN AND UTERINE DISEASES, with Commentaries. Foolscap 8vo. cloth, 6*s.* 6*d.*

III.

CLINICAL MIDWIFERY: comprising the Histories of 545 Cases of Difficult, Preternatural, and Complicated Labour, with Commentaries. Second Edition. Foolscap 8vo. cloth, 5*s.*

IV.

PRACTICAL OBSERVATIONS ON DISEASES OF THE UTERUS. With coloured Plates. Two Parts. Imperial 4to., 7*s.* 6*d.* each Part.

MR. LISTON, F.R.S.

PRACTICAL SURGERY. Fourth Edition. 8vo. cloth, 22*s.*

MR. H. W. LOBB, L.S.A., M.R.C.S.E.

ON SOME OF THE MORE OBSCURE FORMS OF NERVOUS AFFECTIONS, THEIR PATHOLOGY AND TREATMENT. With an Introduction on the Physiology of Digestion and Assimilation, and the Generation and Distribution of Nerve Force. Based upon Original Microscopical Observations. With Engravings. 8vo. cloth, 10*s*. 6*d*.

LONDON MEDICAL SOCIETY OF OBSERVATION.

WHAT TO OBSERVE AT THE BED-SIDE, AND AFTER DEATH. Published by Authority. Second Edition. Foolscap 8vo. cloth, 4*s*. 6*d*.

M. LUGOL.

ON SCROFULOUS DISEASES. Translated from the French, with Additions by W. H. RANKING, M.D., Physician to the Suffolk General Hospital. 8vo. cloth, 10*s*. 6*d*.

DR. GEORGE H. B. MACLEOD, F.R.C.S. (EDIN.)

NOTES ON THE SURGERY OF THE CRIMEAN WAR; with REMARKS on GUN-SHOT WOUNDS. 8vo. cloth, 10*s*. 6*d*.

MR. JOSEPH MACLISE, F.R.C.S.

I.

SURGICAL ANATOMY. A Series of Dissections, illustrating the Principal Regions of the Human Body.

The Second Edition, complete in XIII. Fasciculi. Imperial folio, 5*s*. each; bound in cloth, £3. 12*s*.; or bound in morocco, £4. 4*s*.

II.

ON DISLOCATIONS AND FRACTURES. This Work will be Uniform with the Author's "Surgical Anatomy;" each Fasciculus will contain Four beautifully executed Lithographic Drawings, and be completed in Nine Numbers. Fasciculi I. to VII., imperial folio, 5*s*.

DR. MAYNE.

AN EXPOSITORY LEXICON OF THE TERMS, ANCIENT AND MODERN, IN MEDICAL AND GENERAL SCIENCE, including a complete MEDICAL AND MEDICO-LEGAL VOCABULARY, and presenting the correct Pronunciation, Derivation, Definition, and Explanation of the Names, Analogues, Synonymes, and Phrases (in English, Latin, Greek, French, and German,) employed in Science and connected with Medicine. Parts I. to VIII., price 5*s*. each.

DR. WM. H. MADDEN.

THOUGHTS ON PULMONARY CONSUMPTION; with an Appendix on the Climate of Torquay. Post 8vo. cloth, 5*s*.

DR. MARCET.

ON THE COMPOSITION OF FOOD, AND HOW IT IS ADULTERATED; with Practical Directions for its Analysis. 8vo. cloth, 6*s*. 6*d*.

DR. MARTIN.

THE UNDERCLIFF, ISLE OF WIGHT: its Climate, History, and Natural Productions. Post 8vo. cloth, 10*s*. 6*d*.

DR. MARKHAM.

I.

DISEASES OF THE HEART: THEIR PATHOLOGY, DIAGNOSIS, AND TREATMENT. Post. 8vo. cloth, 6*s.*

II.

SKODA ON AUSCULTATION AND PERCUSSION. Post 8vo. cloth, 6*s.*

MR. J. RANALD MARTIN, F.R.S.

THE INFLUENCE OF TROPICAL CLIMATES ON EUROPEAN CONSTITUTIONS. Originally by the late JAMES JOHNSON, M.D., and now entirely rewritten; including Practical Observations on the Diseases of European Invalids on their Return from Tropical Climates. Seventh Edition. 8vo. cloth, 16*s.*

DR. MASSY.

ON THE EXAMINATION OF RECRUITS; intended for the Use of Young Medical Officers on Entering the Army. 8vo. cloth, 5*s.*

MR. MAUNDER, F.R.C.S.

RICORD'S LECTURES ON CHANCRE. With Remarks on Perinaeal Section of Stricture of the Urethra. 8vo. cloth, 8*s.*

DR. MILLINGEN.

ON THE TREATMENT AND MANAGEMENT OF THE INSANE; with Considerations on Public and Private Lunatic Asylums. 18mo. cloth, 4*s.* 6*d.*

MR. JOHN L. MILTON, M.R.C.S.

PRACTICAL OBSERVATIONS ON A NEW WAY OF TREATING GONORRHŒA. With some Remarks on the Cure of Inveterate Cases. 8vo. cloth, 5s.

DR. MONRO.

I.

REMARKS ON INSANITY: its Nature and Treatment. 8vo. cloth, 6*s.*

II.

REFORM IN PRIVATE LUNATIC ASYLUMS. 8vo. cloth, 4*s.*

DR. NOBLE.

I.

ELEMENTS OF PSYCHOLOGICAL MEDICINE: AN INTRODUCTION TO THE PRACTICAL STUDY OF INSANITY. Second Edition. 8vo. cloth, 10*s.*

II.

THE HUMAN MIND IN ITS RELATIONS WITH THE BRAIN AND NERVOUS SYSTEM. Post 8vo. cloth, 4*s.* 6*d*,

MR. J. NOTTINGHAM, F.R.C.S.

DISEASES OF THE EAR. Illustrated by Clinical Observations. 8vo. cloth, 12*s.*

MR. NOURSE, M.R.C.S.

TABLES FOR STUDENTS. Price One Shilling the Set.

1. Divisions and Classes of the Animal Kingdom.
2. Classes and Orders of the Vertebrate Sub-kingdom.
3. Classes of the Vegetable Kingdom, according to the Natural and Artificial Systems.
4. Table of the Elements, with their Chemical Equivalents and Symbols.

* * *

MR. NUNNELEY, F.R.C.S.E.

I.

ON THE ORGANS OF VISION: THEIR ANATOMY AND PHYSIOLOGY. With Plates, 8vo. cloth, 15*s.*

II.

A TREATISE ON THE NATURE, CAUSES, AND TREATMENT OF ERYSIPELAS. 8vo. cloth, 10*s.* 6*d.*

* * *

DR. ODLING.

A COURSE OF PRACTICAL CHEMISTRY, FOR THE USE OF MEDICAL STUDENTS. Arranged with express reference to the Three Months' Summer Course. Post 8vo. cloth, 4*s.* 6*d.*

* * *

TRANSACTIONS OF THE ODONTOLOGICAL SOCIETY OF LONDON. With Plates. Vol. I., 8vo. cloth, 8*s.* 6*d.*

* * *

MR. PAGET.

A DESCRIPTIVE CATALOGUE OF THE ANATOMICAL MUSEUM OF ST. BARTHOLOMEW'S HOSPITAL. VOL. I. Morbid Anatomy. 8vo. cloth, 5*s.*

DITTO. Vol. II. Natural and Congenitally Malformed Structures, and Lists of the Models, Casts, Drawings, and Diagrams. 5*s.*

* * *

MR. LANGSTON PARKER.

THE MODERN TREATMENT OF SYPHILITIC DISEASES, both Primary and Secondary; comprising the Treatment of Constitutional and Confirmed Syphilis, by a safe and successful Method. Third Edition, 8vo. cloth, 10*s.*

* * *

MR. JAMES PART, F.R.C.S.

THE MEDICAL AND SURGICAL POCKET CASE BOOK, for the Registration of important Cases in Private Practice, and to assist the Student of Hospital Practice. Second Edition. 3*s.* 6*d.*

* * *

DR. THOMAS B. PEACOCK, M.D.

ON THE INFLUENZA, OR EPIDEMIC CATARRHAL FEVER OF 1847-8. 8vo. cloth, 5*s.* 6*d.*

MR. OLIVER PEMBERTON, M.R.C.S.

OBSERVATIONS ON THE HISTORY, PATHOLOGY, AND TREATMENT OF CANCEROUS DISEASES. Part I.—MELANOSIS. With coloured Plates. Royal 8vo. cloth, 4*s.* 6*d.*

MR. PEREIRA, F.R.S.

SELECTA E PRÆSCRIPTIS. Twelfth Edition. 24mo. cloth, 5*s.*

MR. PETTIGREW, F.R.S.

ON SUPERSTITIONS connected with the History and Practice of Medicine and Surgery. 8vo. cloth, 7*s.*

DR. PICKFORD.

HYGIENE; or, Health as Depending upon the Conditions of the Atmosphere, Food and Drinks, Motion and Rest, Sleep and Wakefulness, Secretions, Excretions, and Retentions, Mental Emotions, Clothing, Bathing, &c. 8vo. cloth, 9*s.*

MR. PIRRIE, F.R.S.E.

THE PRINCIPLES AND PRACTICE OF SURGERY. With numerous Engravings on Wood. 8vo. cloth, 21*s.*

PHARMACOPŒIA COLLEGII REGALIS MEDICORUM LONDINENSIS. 8vo. cloth, 9*s.*; or 24mo. 5*s.*

IMPRIMATUR.

Hic liber, cui titulus, PHARMACOPŒIA COLLEGII REGALIS MEDICORUM LONDINENSIS. Datum ex Ædibus Collegii in comitiis censoriis, Novembris Mensis 14to 1850.

JOHANNES AYRTON PARIS. *Præses.*

PROFESSORS PLATTNER & MUSPRATT.

THE USE OF THE BLOWPIPE IN THE EXAMINATION OF MINERALS, ORES, AND OTHER METALLIC COMBINATIONS. Illustrated by numerous Engravings on Wood. Third Edition. 8vo. cloth, 10*s.* 6*d.*

THE PRESCRIBER'S PHARMACOPŒIA; containing all the Medicines in the London Pharmacopœia, arranged in Classes according to their Action, with their Composition and Doses. By a Practising Physician. Fourth Edition. 32mo. cloth, 2*s.* 6*d.*; roan tuck (for the pocket), 3*s.* 6*d.*

MR. LAKE PRICE.

PHOTOGRAPHIC MANIPULATION: Treating of the Practice of the Art, and its various appliances to Nature. With Fifty Engravings on Wood. Post 8vo. cloth, 6*s.* 6*d.*

SIR WM. PYM, K.C.H.

OBSERVATIONS UPON YELLOW FEVER, with a Review of "A Report upon the Diseases of the African Coast, by Sir WM. BURNETT and Dr. BRYSON," proving its highly Contagious Powers. Post 8vo. 6*s.*

DR. JOHN ROWLISON PRETTY.

AIDS DURING LABOUR, including the Administration of Chloroform, the Management of Placenta and Post-partum Hæmorrhage. Fcap. 8vo. cloth, 4*s.* 6*d.*

DR. RADCLIFFE.

EPILEPSY, AND OTHER CONVULSIVE AFFECTIONS; their Pathology and Treatment. Second Edition. Post 8vo. cloth, 7*s.* 6*d.*

MR. RAINEY.

ON THE MODE OF FORMATION OF SHELLS OF ANIMALS, OF BONE, AND OF SEVERAL OTHER STRUCTURES, by a Process of Molecular Coalescence, Demonstrable in certain Artificially-formed Products. Fcap. 8vo. cloth, 4*s.* 6*d.*

DR. F. H. RAMSBOTHAM.

THE PRINCIPLES AND PRACTICE OF OBSTETRIC MEDICINE AND SURGERY. Illustrated with One Hundred and Twenty Plates on Steel and Wood; forming one thick handsome volume. Fourth Edition. 8vo. cloth, 22*s.*

DR. RAMSBOTHAM.

PRACTICAL OBSERVATIONS ON MIDWIFERY, with a Selection of Cases. Second Edition. 8vo. cloth, 12*s.*

DR. DU BOIS REYMOND.

ANIMAL ELECTRICITY; Edited by H. Bence Jones, M.D., F.R.S. With Fifty Engravings on Wood. Foolscap 8vo. cloth, 6*s.*

DR. REYNOLDS.

THE DIAGNOSIS OF DISEASES OF THE BRAIN, SPINAL CORD, AND THEIR APPENDAGES. 8vo. cloth, 8*s.*

DR. B. W. RICHARDSON.

I.

ON THE CAUSE OF THE COAGULATION OF THE BLOOD. Being the Astley Cooper Prize Essay for 1856. With a Practical Appendix. 8vo. cloth, 16*s.*

II.

THE HYGIENIC TREATMENT OF PULMONARY CONSUMPTION. 8vo. cloth, 5*s.* 6*d.*

DR. W. H. ROBERTSON.

I.

THE NATURE AND TREATMENT OF GOUT.
8vo. cloth, 10*s.* 6*d.*

II.

A TREATISE ON DIET AND REGIMEN.
Fourth Edition. 2 vols. post 8vo. cloth, 12*s.*

MR. ROBERTON.

ON THE PHYSIOLOGY AND DISEASES OF WOMEN, AND ON PRACTICAL MIDWIFERY. 8vo. cloth, 12*s.*

* * *

MR. WILLIAM ROBERTS.

AN ESSAY ON WASTING PALSY; being a Systematic Treatise on the Disease hitherto described as ATROPHIE MUSCULAIRE PROGRESSIVE. With Four Plates. 8vo. cloth, 7*s.* 6*d.*

* * *

DR. ROWE, F.S.A.

I.

ON SOME OF THE MORE IMPORTANT DISEASES OF WOMEN and CHILDREN. Second Edition. Fcap. 8vo. cloth, 4*s.* 6*d.*

II.

NERVOUS DISEASES, LIVER AND STOMACH COMPLAINTS, LOW SPIRITS, INDIGESTION, GOUT, ASTHMA, AND DISORDERS PRODUCED BY TROPICAL CLIMATES. With Cases. Fifteenth Edition. Fcap. 8vo. 2*s.* 6*d.*

* * *

DR. ROYLE, F.R.S.

A MANUAL OF MATERIA MEDICA AND THERAPEUTICS. With numerous Engravings on Wood. Third Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

* * *

MR. RUMSEY, F.R.C.S.

ESSAYS ON STATE MEDICINE. 8vo. cloth, 10*s.* 6*d.*

* * *

MR. SAVORY.

A COMPENDIUM OF DOMESTIC MEDICINE, AND COMPANION TO THE MEDICINE CHEST; comprising Plain Directions for the Employment of Medicines, with their Properties and Doses, and Brief Descriptions of the Symptoms and Treatment of Diseases, and of the Disorders incidental to Infants and Children, with a Selection of the most efficacious Prescriptions. Intended as a Source of Easy Reference for Clergymen, and for Families residing at a Distance from Professional Assistance. Fifth Edition. 12mo. cloth, 5*s.*

* * *

DR. SCHACHT.

THE MICROSCOPE, AND ITS APPLICATION TO VEGETABLE ANATOMY AND PHYSIOLOGY. Edited by FREDERICK CURREY, M.A. Fcap. 8vo. cloth, 6*s.*

* * *

DR. SEMPLE.

ON COUGH: its Causes, Varieties, and Treatment. With some practical Remarks on the Use of the Stethoscope as an aid to Diagnosis. Post 8vo. cloth, 4*s.* 6*d.*

MR. SHAW, M.R.C.S.

THE MEDICAL REMEMBRANCER; OR, BOOK OF EMERGENCIES: in which are concisely pointed out the Immediate Remedies to be adopted in the First Moments of Danger from Poisoning, Apoplexy, Burns, and other Accidents; with the Tests for the Principal Poisons, and other useful Information. Fourth Edition. Edited, with Additions, by JONATHAN HUTCHINSON, M.R.C.S. 32mo. cloth, 2*s.* 6*d.*

* * *

DR. SIBSON, F.R.S.

MEDICAL ANATOMY. With coloured Plates. Imperial folio. Fasciculi I. to V. 5*s.* each.

* * *

DR. E. H. SIEVEKING.

ON EPILEPSY AND EPILEPTIFORM SEIZURES: their Causes, Pathology, and Treatment. Post 8vo. cloth, 7*s.* 6*d.*

* * *

MR. SINCLAIR AND DR. JOHNSTON.

PRACTICAL MIDWIFERY: Comprising an Account of 13,748 Deliveries, which occurred in the Dublin Lying-in Hospital, during a period of Seven Years. 8vo. cloth, 15*s.*

* * *

DR. SMELLIE.

OBSTETRIC PLATES: being a Selection from the more Important and Practical Illustrations contained in the Original Work. With Anatomical and Practical Directions. 8vo. cloth, 5*s.*

* * *

MR. HENRY SMITH, F.R.C.S.

ON STRICTURE OF THE URETHRA. 8vo. cloth, 7*s.* 6*d.*

* * *

DR. W. TYLER SMITH.

I.

A MANUAL OF OBSTETRICS, THEORETICAL AND PRACTICAL. Illustrated with 186 Engravings. Fcap. 8vo. cloth, 12*s.* 6*d.*

II.

THE PATHOLOGY AND TREATMENT OF LEUCORRHŒA. With Engravings on Wood. 8vo. cloth, 7*s.*

* * *

DR. SNOW.

I.

ON CHLOROFORM AND OTHER ANÆSTHETICS: THEIR ACTION AND ADMINISTRATION. Edited, with a Memoir of the Author, by Benjamin W. Richardson, M.D. 8vo. cloth, 10*s.* 6*d.*

* * *

DR. STANHOPE TEMPLEMAN SPEER.

PATHOLOGICAL CHEMISTRY, IN ITS APPLICATION TO THE PRACTICE OF MEDICINE. Translated from the French of MM. BECQUEREL and RODIER. 8vo. cloth, 12*s.*

DR. SPURGIN.

LECTURES ON MATERIA MEDICA, AND ITS RELATIONS TO THE ANIMAL ECONOMY. Delivered before the Royal College of Physicians. 8vo. cloth, 5*s.* 6*d.*

MR. SQUIRE, F.L.S.

THE PHARMACOPŒIA, (LONDON, EDINBURGH, AND DUBLIN,) arranged in a convenient TABULAR FORM, both to suit the Prescriber for comparison, and the Dispenser for compounding the formulæ; with Notes, Tests, and Tables. 8vo. cloth, 12*s.*

DR. SWAYNE.

OBSTETRIC APHORISMS FOR THE USE OF STUDENTS COMMENCING MIDWIFERY PRACTICE. With Engravings on Wood. Fcap. 8vo. cloth, 3*s.* 6*d.*

DR. STEGGALL.

STUDENTS' BOOKS FOR EXAMINATION.

I.

A MEDICAL MANUAL FOR APOTHECARIES' HALL AND OTHER MEDICAL BOARDS. Twelfth Edition. 12mo. cloth, 10*s.*

II.

A MANUAL FOR THE COLLEGE OF SURGEONS; intended for the Use of Candidates for Examination and Practitioners. Second Edition. 12mo. cloth, 10*s.*

III.

GREGORY'S CONSPECTUS MEDICINÆ THEORETICÆ. The First Part, containing the Original Text, with an Ordo Verborum, and Literal Translation. 12mo. cloth, 10*s.*

IV.

THE FIRST FOUR BOOKS OF CELSUS; containing the Text, Ordo Verborum, and Translation. Second Edition. 12mo. cloth, 8*s.*

V.

A TEXT-BOOK OF MATERIA-MEDICA AND THERAPEUTICS. 12mo. cloth, 7*s.*

VI.

FIRST LINES FOR CHEMISTS AND DRUGGISTS PREPARING FOR EXAMINATION AT THE PHARMACEUTICAL SOCIETY. Second Edition. 18mo. cloth, 3*s.* 6*d.*

MR. STOWE, M.R.C.S.

A TOXICOLOGICAL CHART, exhibiting at one view the Symptoms Treatment, and Mode of Detecting the various Poisons, Mineral, Vegetable, and Animal. To which are added, concise Directions for the Treatment of Suspended Animation. Eleventh Edition. On Sheet, 2*s.*; mounted on Roller, 5*s.*

MR. TAMPLIN, F.R.C.S.E.

LATERAL CURVATURE OF THE SPINE: its Causes, Nature, and Treatment. 8vo. cloth, 4*s.*

DR. ALFRED S. TAYLOR, F.R.S.

I.

A MANUAL OF MEDICAL JURISPRUDENCE. Sixth Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

II.

ON POISONS, in relation to MEDICAL JURISPRUDENCE AND MEDICINE. Second Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

MR. TEALE.

ON AMPUTATION BY A LONG AND A SHORT RECTANGULAR FLAP. With Engravings on Wood. 8vo. cloth, 5*s.*

DR. THEOPHILUS THOMPSON, F.R.S.

I.

CLINICAL LECTURES ON PULMONARY CONSUMPTION. With Plates. 8vo. cloth, 7*s.* 6*d.*

II.

LETTSOMIAN LECTURES ON PULMONARY CONSUMPTION; with Remarks on Microscopical Indications, and on Cocoa-nut Oil. Post 8vo., 2*s.* 6*d.*

DR. THOMAS.

THE MODERN PRACTICE OF PHYSIC; exhibiting the Symptoms, Causes, Morbid Appearances, and Treatment of the Diseases of all Climates. Eleventh Edition. Revised by ALGERNON FRAMPTON, M.D. 2 vols. 8vo. cloth, 28*s.*

MR. HENRY THOMPSON, M.B. LOND., F.R.C.S.

I.

STRICTURE OF THE URETHRA; its Pathology and Treatment. The last Jacksonian Treatise of the Royal College of Surgeons. With Plates. Second Edition. 8vo. cloth, 10*s.*

II.

THE ENLARGED PROSTATE; its Pathology and Treatment. With Observations on the Relation of this Complaint to Stone in the Bladder. With Plates. 8vo. cloth, 7*s.* 6*d.*

DR. THUDICHUM.

A TREATISE ON THE PATHOLOGY OF THE URINE, Including a complete Guide to its Analysis. With Plates, 8vo. cloth, 14*s.*

DR. TILT.

I.

ON DISEASES OF WOMEN AND OVARIAN INFLAMMATION IN RELATION TO MORBID MENSTRUATION, STERILITY, PELVIC TUMOURS, AND AFFECTIONS OF THE WOMB. Second Edition. 8vo. cloth, 9*s.*

II.

THE CHANGE OF LIFE IN HEALTH AND DISEASE: a Practical Treatise on the Nervous and other Affections incidental to Women at the Decline of Life. Second Edition. 8vo. cloth, 6*s.*

DR. ROBERT B. TODD, F.R.S.

I.

CLINICAL LECTURES ON PARALYSIS, DISEASES OF THE BRAIN, and other AFFECTIONS of the NERVOUS SYSTEM. Second Edition. Foolscap 8vo. cloth, 6*s.*

II.

CLINICAL LECTURES ON CERTAIN DISEASES OF THE URINARY ORGANS, AND ON DROPSIES. Fcap. 8vo. cloth, 6*s.*

* * *

MR. JOSEPH TOYNBEE, F.R.S.

A DESCRIPTIVE CATALOGUE OF PREPARATIONS ILLUSTRATIVE OF THE DISEASES OF THE EAR, IN HIS MUSEUM. 8vo. cloth, 5*s.*

* * *

MR. SAMUEL TUKE.

DR. JACOBI ON THE CONSTRUCTION AND MANAGEMENT OF HOSPITALS FOR THE INSANE. Translated from the German. With Introductory Observations by the Editor. With Plates. 8vo. cloth, 9*s.*

* * *

DR. TURNBULL.

A PRACTICAL TREATISE ON DISORDERS OF THE STOMACH with FERMENTATION; and on the Causes and Treatment of Indigestion, &c. 8vo. cloth, 6*s.*

* * *

DR. UNDERWOOD.

TREATISE ON THE DISEASES OF CHILDREN. Tenth Edition, with Additions and Corrections by Henry Davies, M.D. 8vo. cloth, 15*s.*

* * *

VESTIGES OF THE NATURAL HISTORY OF CREATION.

Tenth Edition. Illustrated with 100 Engravings on Wood. 8vo. cloth, 12*s.* 6*d.*

BY THE SAME AUTHOR.

EXPLANATIONS: A SEQUEL TO "VESTIGES."

Second Edition. Post 8vo. cloth, 5*s.*

* * *

DR. UNGER.

BOTANICAL LETTERS. Translated by Dr. B. Paul. Numerous Woodcuts. Post 8vo., 5*s.*

DR. VAN OVEN.

ON THE DECLINE OF LIFE IN HEALTH AND DISEASE;

being an Attempt to Investigate the Causes of LONGEVITY, and the Best Means of Attaining a Healthful Old Age. 8vo. cloth, 10*s.* 6*d.*

MR. WADE, F.R.C.S.

STRICTURE OF THE URETHRA; its Complications and Effects. With Practical Observations on its Causes, Symptoms, and Treatment; and on a Safe and Efficient Mode of Treating its more Intractable Forms. 8vo. cloth, 5*s.*

DR. WALLER.

ELEMENTS OF PRACTICAL MIDWIFERY; or, Companion to the Lying-in Room. Fourth Edition, with Plates. Fcap. cloth, 4*s.* 6*d.*

MR. HAYNES WALTON, F.R.C.S.

OPERATIVE OPHTHALMIC SURGERY. With Engravings on Wood. 8vo. cloth, 18*s.*

DR. WARDROP.

ON DISEASES OF THE HEART. 8vo. cloth, 12*s.*

DR. EBEN. WATSON, A.M.

ON THE TOPICAL MEDICATION OF THE LARYNX IN CERTAIN DISEASES OF THE RESPIRATORY AND VOCAL ORGANS.

8vo. cloth, 5*s.*

DR. WEBER.

A CLINICAL HAND-BOOK OF AUSCULTATION AND PERCUSSION. Translated by JOHN COCKLE, M.D. 5*s.*

DR. WEGG.

OBSERVATIONS RELATING TO THE SCIENCE AND ART OF MEDICINE. 8vo. cloth, 8*s.*

DR. WEST.

LECTURES ON THE DISEASES OF WOMEN. 8vo. cloth, 16*s.*

*** Part II., 8vo. cloth, 6s., may be had separately.

MR. T. SPENCER WELLS, F.R.C.S.

PRACTICAL OBSERVATIONS ON GOUT AND ITS COMPLICATIONS, and on the Treatment of Joints Stiffened by Gouty Deposits. Foolscap 8vo. cloth, 5*s.*

MR. WHEELER.

HAND-BOOK OF ANATOMY FOR STUDENTS OF THE FINE ARTS. New Edition, with Engravings on Wood. Fcap. 8vo., 2*s.* 6*d.*

DR. WHITEHEAD, F.R.C.S.

ON THE TRANSMISSION FROM PARENT TO OFFSPRING OF SOME FORMS OF DISEASE, AND OF MORBID TAINTS AND TENDENCIES. Second Edition. 8vo. cloth, 10*s.* 6*d.*

DR. WILLIAMS, F.R.S.

PRINCIPLES OF MEDICINE: An Elementary View of the Causes, Nature, Treatment, Diagnosis, and Prognosis, of Disease. With brief Remarks on Hygienics, or the Preservation of Health. The Third Edition. 8vo. cloth, 15*s.*

DR. JOSEPH WILLIAMS.

INSANITY: its Causes, Prevention, and Cure; including Apoplexy, Epilepsy, and Congestion of the Brain. Second Edition. Post 8vo. cloth, 10*s.* 6*d.*

DR. J. HUME WILLIAMS.

UNSOUNDNESS OF MIND, IN ITS MEDICAL AND LEGAL CONSIDERATIONS. 8vo. cloth, 7*s.* 6*d.*

DR. G. C. WITTSTEIN.

PRACTICAL PHARMACEUTICAL CHEMISTRY: An Explanation of Chemical and Pharmaceutical Processes, with the Methods of Testing the Purity of the Preparations, deduced from Original Experiments. Translated from the Second German Edition, by STEPHEN DARBY. 18mo. cloth, 6*s.*

DR. HENRY G. WRIGHT.

HEADACHES; their Causes and their Cure. Second Edition. Fcap. 8vo. 2*s.* 6*d.*

MR. ERASMUS WILSON, F.R.S.

I.

THE ANATOMIST'S VADE-MECUM: A SYSTEM OF HUMAN ANATOMY. With numerous Illustrations on Wood. Seventh Edition. Foolscap 8vo. cloth, 12*s.* 6*d.*

II.

DISEASES OF THE SKIN: A Practical and Theoretical Treatise on the DIAGNOSIS, PATHOLOGY, and TREATMENT OF CUTANEOUS DISEASES. Fourth Edition. 8vo. cloth, 16*s.*

THE SAME WORK; illustrated with finely executed Engravings on Steel, accurately coloured. 8vo. cloth, 34*s.*

III.

HEALTHY SKIN: A Treatise on the Management of the Skin and Hair in relation to Health. Fifth Edition. Foolscap 8vo. 2*s.* 6*d.*

IV.

PORTRAITS OF DISEASES OF THE SKIN. Folio. Fasciculi I. to XII., completing the Work. 20*s.* each.

V.

ON SYPHILIS, CONSTITUTIONAL AND HEREDITARY; AND ON SYPHILITIC ERUPTIONS. With Four Coloured Plates. 8vo. cloth, 16*s.*

VI.

A THREE WEEKS' SCAMPER THROUGH THE SPAS OF GERMANY AND BELGIUM, with an Appendix on the Nature and Uses of Mineral Waters. Post 8vo. cloth, 6*s.* 6*d.*

* * *

DR. FORBES WINSLOW, D.C.L. OXON.

LETTSOMIAN LECTURES ON INSANITY. 8vo. cloth, 5*s.*

* * *

MR. YEARSLEY.

I.

DEAFNESS PRACTICALLY ILLUSTRATED; being an Exposition of Original Views as to the Causes and Treatment of Diseases of the Ear. Fifth Edition. Foolscap 8vo., 2*s.* 6*d.*

II.

ON THE ENLARGED TONSIL AND ELONGATED UVULA, and other Morbid Conditions of the Throat. Sixth Edition. 8vo. cloth, 5*s.*

CHURCHILL'S SERIES OF MANUALS.

"We here give Mr. Churchill public thanks for the positive benefit conferred on the Medical Profession, by the series of beautiful and cheap Manuals which bear his imprint."—*British and Foreign Medical Review.*

AGGREGATE SALE 102,000 COPIES.

DR. BARLOW.

A MANUAL OF THE PRACTICE OF MEDICINE.

Fcap. 8vo. cloth, 12*s.* 6*d.*

DR. GOLDING BIRD, F.R.S., and CHARLES BROOKE, M.B. Cantab, F.R.S.

ELEMENTS OF NATURAL PHILOSOPHY;

Being an Experimental Introduction to the Study of the Physical Sciences. With numerous Illustrations on Wood. Fourth Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

DR. CARPENTER, F.R.S.

A MANUAL OF PHYSIOLOGY.

With numerous Illustrations on Steel and Wood. Third Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

BY THE SAME AUTHOR.

THE MICROSCOPE AND ITS REVELATIONS.

With numerous Engravings on Wood. Second Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

MR. FERGUSSON, F.R.S.E.

A SYSTEM OF PRACTICAL SURGERY.

With numerous Illustrations on Wood. Fourth Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

MR. FOWNES, PH.D., F.R.S.

A MANUAL OF CHEMISTRY.

With numerous Illustrations on Wood. Seventh Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

MR. WHARTON JONES, F.R.S.

A MANUAL OF OPHTHALMIC MEDICINE & SURGERY.

With Coloured Engravings on Steel, and Illustrations on Wood.
Second Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

Dr. HANDFIELD JONES, F.R.S., & Dr. EDWARD H. SIEVEKING.

A MANUAL OF PATHOLOGICAL ANATOMY.

Illustrated with numerous Engravings on Wood. Fcap. 8vo., cloth, 12*s.* 6*d.*

DR. ROYLE, F.R.S., and DR. HEADLAND, F.L.S.

A MANUAL OF MATERIA-MEDICA.

With numerous Illustrations on Wood. Third Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

Dr. W. TYLER SMITH.

A MANUAL OF OBSTETRICS.

Illustrated with 186 Engravings. Fcap. 8vo. cloth, 12*s.* 6*d.*

DR. ALFRED TAYLOR, F.R.S.

A MANUAL OF MEDICAL JURISPRUDENCE.

Sixth Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

BY THE SAME AUTHOR.

ON POISONS.

Second Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

MR. ERASMUS WILSON, F.R.S.

THE ANATOMIST'S VADE-MECUM;

A SYSTEM OF HUMAN ANATOMY. With numerous Illustrations on Wood. Seventh Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

Printed by W. BLANCHARD & SONS, 62, Millbank Street, Westminster.

A CLASSIFIED INDEX

TO

MR. CHURCHILL'S CATALOGUE.

ANATOMY.

PAGE
Anatomical Remembrancer .. 3
Beale on Liver .. 5
Hassall's Micros. Anatomy .. 14
Holden's Human Osteology .. 15
Jones' and Sieveking's Pathological Anatomy .. 17
Maclise's Surgical Anatomy .. 19
Paget's Catalogue .. 21
Sibson's Medical Anatomy .. 25
Toynbee's Catalogue .. 28
Wheeler's Handbook .. 30
Wilson's Anatomy .. 31

CHEMISTRY.

Abel & Bloxam's Handbook .. 3
Bowman's Practical Chemistry 7
Do. Medical do. .. 7
Chalmers' Electro-Chemistry .. 8
Fownes' Manual of Chemistry .. 12
Do. Actonian Prize .. 12
Do. Qualitative Analysis .. 12
Do. Chemical Tables .. 12
Fresenius' Chemical Analysis .. 12
Galloway's First Step .. 12
Do. Analysis .. 12
Do. Diagrams .. 12
Griffiths' Four Seasons .. 13
Horsley's Chem. Philosophy .. 16
Jones.—Mulder on Wine .. 17
Odling's Practical Chemistry .. 21
Plattner on Blowpipe .. 22
Speer's Pathol. Chemistry .. 25

CLIMATE.

Francis on Change of Climate .. 12
Hall on Torquay .. 14
Haviland on Climate .. 14
Lee on Climate .. 18
Martin on the Undercliff .. 19
Martin (J. R.) on Tropical .. 20

DEFORMITIES, &c.

Bigg on Deformities .. 6
Bishop on Deformities .. 6
Do. Articulate Sounds .. 6
Brodhurst on Spine .. 7
Do. on Clubfoot .. 7
Hare on Spine .. 14
Hugman on Hip Joint .. 16
Inman on Spine .. 16
Tamplin on Spine .. 26

DENTISTRY.

Blundell's Painless Extraction . 6
Clark's Odontalgist .. 9
Gray on the Teeth .. 13
Odontological Soc. Transactions 21

DISEASES of the URINARY and GENERATIVE ORGANS, and SYPHILIS.

PAGE
Acton on Reproductive Organs 3
Coote on Syphilis .. 9
Coulson on Bladder .. 10
Do. on Lithotomy .. 10
Egan on Syphilis .. 11
Gant on Bladder .. 13
Judd on Syphilis .. 17
Maunder on Chancre .. 20
Milton on Gonorrhœa .. 20
Parker on Syphilis .. 21
Todd on Urinary Organs .. 28
Wilson on Syphilis .. 31

DISEASES OF WOMEN AND CHILDREN.

Bennet on Uterus .. 5
Do. on Uterine Pathology .. 5
Bird on Children .. 5
Brown on Women .. 7
Do. on Scarlatina .. 7
Eyre's Practical Remarks .. 11
Hood on Crowing .. 16
Lee's Ovarian & Uterine Diseases 18
Lee on Diseases of Uterus .. 18
Do. on Speculum .. 18
Roberton on Women .. 24
Rowe on Females .. 24
Smith on Leucorrhœa .. 25
Tilt on Diseases of Women .. 27
Do. on Change of Life .. 27
Underwood on Children .. 28
West on Women .. 29

HYGIENE.

Armstrong on Naval Hygiene 3
Beale's Laws of Health .. 4
Do. Health and Diseases .. 4
Bennet on Nutrition .. 5
Blundell's Medicina Mechanica 7
Carter on Training .. 8
Cornaro on Long Life .. 9
Hartwig on Sea Bathing .. 14
Do. Physical Education 14
Hufeland's Art .. 16
Lee's Watering Places of England 18
Do. do. Germany, France, and Switzerland .. 18
Lee's Rhenish Watering Places 18
Pickford on Hygiene .. 22
Robertson on Diet .. 23
Rumsey's State Medicine .. 24
Van Oven's Decline of Life .. 29
Wilson on Healthy Skin .. 31
Do. on Mineral Waters .. 31

MATERIA MEDICA and PHARMACY.

PAGE
Bateman's Magnacopia .. 4
Beasley's Formulary .. 5
Do. Receipt Book .. 5
Do. Book of Prescriptions 5
Lane's Materia Medica .. 18
Pereira's Selecta e Præscriptis 22
Pharmacopœia Londinensis .. 22
Prescriber's Pharmacopœia .. 22
Royle's Materia Medica .. 24
Spurgin's Materia Medica .. 26
Squire's Pharmacopœia .. 26
Steggall's Materia Medica .. 26
Do. First Lines for Chemists 26
Stowe's Toxicological Chart .. 26
Taylor on Poisons .. 27
Wittstein's Pharmacy .. 30

MEDICINE.

Acland on Cholera .. 3
Adams on Rheumatic Gout .. 3
Addison on Supra-Renal Capsules 3
Addison on Cells .. 3
Alexander on Rheumatism .. 3
Baly and Gull on Cholera .. 4
Barclay on Diagnosis .. 4
Barlow's Practice of Medicine 4
Basham on Dropsy .. 5
Beale on Urine .. 5
Billing's First Principles .. 6
Bird's Urinary Deposits .. 6
Bird on Charcoal .. 6
Brinton on Stomach .. 7
Do. on Ulcer of do. .. 7
Budd on the Liver .. 7
Do. on Stomach .. 7
Camplin on Diabetes .. 8
Chambers on Digestion .. 8
Davey's Ganglionic .. 10
Eyre on Stomach .. 11
Fuller on Rheumatism .. 12
Gairdner on Gout .. 12
Granville on Sudden Death .. 13
Gully's Simple Treatment .. 13
Habershon on Stomach .. 13
Hall on Apnœa .. 14
Hall's Observations .. 14
Harrison on Lead in Water .. 14
Hassall on Urine .. 14
Headland on Medicines .. 15
Hooper's Medical Dictionary .. 16
Hooper's Physician's Vade-Mecum .. 13
Jones' Animal Chemistry .. 17
Lugol on Scrofula .. 19
Peacock on Influenza .. 21
Pym on Yellow Fever .. 22
Roberts on Palsy .. 24
Robertson on Gout .. 23
Savory's Compendium .. 24
Semple on Cough .. 24
Shaw's Remembrancer .. 25
Steggall's Medical Manual .. 26

CLASSIFIED INDEX.

MEDICINE—*continued.*

PAGE
Steggall's Gregory's Conspectus 26
Do. Celsus .. 26
Thomas' Practice of Physic .. 27
Thudichum on Urine .. 27
Wegg's Observations .. 29
Wells on Gout .. 30
What to Observe .. 19
Whitehead on Transmission .. 30
Williams' Principles .. 30
Wright on Headaches .. 30

MICROSCOPE.

Beale on Microscope in Medicine 5
Do. How to Work .. 5
Carpenter on Microscope .. 8
Schacht on do. .. 24

MISCELLANEOUS.

Acton on Prostitution .. 3
Atkinson's Bibliography .. 4
Bascome on Epidemics .. 4
Bryce on Sebastopol .. 8
Cooley's Cyclopædia .. 9
Davy's (Sir H.) Remains .. 11
Forbes' Nature and Art in Disease 12
Gully on Water Cure .. 13
Guy's Hospital Reports .. 13
Haycock's Veterinary .. 15
Lane's Hydropathy .. 18
Marcet on Food .. 19
Massy on Recruits .. 20
Part's Case Book .. 21
Pettigrew on Superstitions .. 22

NERVOUS DISEASES AND INDIGESTION.

Anderson on Nervous Affections 4
Carter on Hysteria .. 8
Child on Indigestion .. 8
Downing on Neuralgia .. 11
Hunt on Heartburn .. 16
Lobb on Nervous Affections .. 19
Radcliffe on Epilepsy .. 23
Reynolds on the Brain .. 23
Rowe on Nervous Diseases .. 24
Sieveking on Epilepsy .. 25
Todd on Nervous System .. 28
Turnbull on Stomach .. 28

OBSTETRICS.

Barnes on Placenta Prævia .. 4
Davis on Parturition .. 11
Lee's Clinical Midwifery .. 18
Pretty's Aids during Labour .. 23
Ramsbotham's Obstetrics .. 23
Do. Midwifery .. 23
Sinclair & Johnston's Midwifery 25
Smellie's Obstetric Plates .. 25
Smith's Manual of Obstetrics .. 25
Swayne's Aphorisms .. 26
Waller's Midwifery .. 29

OPHTHALMOLOGY.

PAGE
Cooper on Near Sight .. 9
Dalrymple on Eye .. 10
Dixon on the Eye .. 11
Hogg on Ophthalmoscope .. 15
Holthouse on Strabismus .. 15
Do. on Impaired Vision 15
Jacob on Eye-ball .. 16
Jago on Ocular Spectres .. 16
Jones' Ophthalmic Medicine .. 17
Do. Defects of Sight .. 17
Do. Eye and Ear .. 17
Nunneley on the Organs of Vision .. 21
Walton on Ophthalmic .. 29

PHYSIOLOGY.

Carpenter's Human .. 8
Do. Comparative .. 8
Do. Manual .. 8
Cottle's Human .. 10
Hilton on the Cranium .. 15
Richardson on Coagulation .. 23

PSYCHOLOGY.

Bucknill and Tuke's Psychological Medicine .. 7
Burgess on Madness .. 7
Burnett on Insanity .. 9
Conolly on Asylums .. 9
Davey on Nature of Insanity .. 10
Dunn's Physiological Psychology .. 11
Hood on Criminal Lunatics .. 16
Jacobi on Hospitals, by Tuke .. 28
Knaggs on Criminal Lunatics .. 17
Millingen on Treatment of Insane .. 20
Monro on Insanity .. 20
Do. Private Asylums .. 20
Noble on Psychology .. 20
Do. on Mind .. 20
Williams (J.) on Insanity .. 30
Williams (J. H) Unsoundness of Mind .. 30
Winslow's Lettsomian .. 31

PULMONARY and CHEST DISEASES, &c.

Addison on Healthy and Diseased Structure .. 3
Billing on Lungs and Heart .. 6
Blakiston on the Chest .. 6
Bright on the Chest .. 7
Cotton on Consumption .. 10
Do. on Stethoscope .. 10
Davies on Lungs and Heart .. 10
Dobell on the Chest .. 11
Fenwick on Consumption .. 11
Laennec on Auscultation .. 17
Madden on Consumption .. 19
Markham on Heart .. 20
Richardson on Consumption .. 23
Skoda on Auscultation .. 20
Thompson on Consumption .. 27
Wardrop on the Heart .. 29
Weber on Auscultation .. 29

SCIENCE.

PAGE
Bird's Natural Philosophy .. 6
Burnett's Philosophy of Spirits 8
Garner's Eutherapeia .. 13
Hardwich's Photography .. 14
Hinds' Harmonies .. 15
Jones on Vision .. 17
Do. on Body, Sense, and Mind 17
Mayne's Lexicon .. 19
Price's Photographic Manipulation .. 22
Nourse's Students' Tables .. 21
Rainey on Shells .. 23
Reymond's Animal Electricity 23
Taylor's Medical Jurisprudence 27
Vestiges of Creation .. 28
Sequel to ditto .. 28
Unger's Botanical Letters .. 28

SURGERY.

Ashton on Rectum .. 4
Bellingham on Aneurism .. 6
Bigg on Artificial Limbs .. 6
Bishop on Bones .. 6
Chapman on Ulcers .. 9
Do. Varicose Veins .. 9
Cooper (Sir A.) on Testis .. 10
Cooper's (B.) Surgery .. 9
Do. (S.) Surg. Dictionary 9
Curling on Rectum .. 10
Do. on Testis .. 10
Druitt's Surgery .. 11
Fergusson's Surgery .. 11
Harrison on Stricture .. 13
Higginbottom on Nitrate of Silver 15
Hodgson on Prostate .. 15
James on Hernia .. 17
Jordan's Clinical Surgery .. 17
Laurence on Cancer .. 18
Lawrence on Ruptures .. 18
Liston's Surgery .. 18
Macleod's Surgery of the Crimea 19
Maclise on Fractures .. 19
Nottingham on the Ear .. 20
Nunneley on Erysipelas .. 21
Pemberton on Melanosis .. 22
Pirrie on Surgery .. 22
Smith on Stricture .. 25
Snow on Chloroform .. 25
Steggall's Surgical Manual .. 26
Teale on Amputation .. 27
Thompson on Stricture .. 27
Do. on Prostate .. 27
Wade on Stricture .. 29
Watson on the Larynx .. 29
Wilson on the Skin .. 31
Do. Portraits of Skin Diseases 31
Yearsley on Deafness .. 31
Do. on Throat .. 31